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PROBLEMS IN PLAN IMPLEMENTATION

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GOVERNMENT OF INDIA

April 1964 (*Vaisakha 1886*)

Price : Re. 1.00

(Binding)

S.C.E.R.T., West Bengal
Date 7.5.84
Acc. No. 2961

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PUBLISHED BY THE DIRECTOR, PUBLICATIONS DIVISION, DELHI-6 AND PRINTED BY THE MANAGER, GOVERNMENT OF INDIA PRESS, FARIDABAD, INDIA

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PREFACE

The aim of this booklet is to promote a better apprecia- on of the problems of implementing the Third Five Year lan, and of its achievements. Part I of the booklet carries xtracts from *The Third Plan: Mid-Term Appraisal* placed y the Government before Parliament on November 25, 1963. Part II comprises articles published in the Plan Implementation Special Number of *Yojana* dated October 13, 1963. The article "Mineral Resources" by Dr. M. S. Krishnan appeared in the October 27, 1963, issue of the urnal.

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PART I

INTRODUCTION

THE Third Five Year Plan was conceived as the first phase of a period of intensive development leading towards a self-reliant and self-generating economy. The Plan also sought to give a more precise content to the social objectives of the Constitution and to ensure a significant advance towards the achievement of socialism and of equal opportunity for every citizen. Planned development during the preceding decade had laid the foundation for rapid economic growth. Accordingly, the Third Plan postulated an increase in agricultural production of 30 per cent, in industry of 70 per cent and in national income of 30 per cent.

Over the past two years, the national effort has been larger and more broad-based than before. Though the advances made in several basic branches of industry, including steel, machine-building, coal, power and transport are substantial and have helped strengthen the economy, the first half of the Third Plan has been, for a variety of reasons, a period of slow economic growth, increase in national income being only of the order of 5 per cent. The present appraisal of progress in carrying out the Third Plan has been undertaken with the object of identifying those elements in policy and implementation which need special attention, so that much greater progress may be achieved during the rest of the plan period.

In reviewing recent development, it has to be remembered that for over a year the Third Plan has been implemented against the background of a serious threat to national security and a continuing emergency which has brought new burdens and responsibilities. The National Development Council viewed the Plan as an integral part of national defence and, in November 1962, called for its successful and speedy implementation with the necessary reorientation to meet the emergency. Accordingly, the immediate priorities of the Plan were re-examined with a view to adapting it to the urgent requirements of defence. In particular, plans for industry, transport, power and scientific and technical manpower were stepped up and a larger agricultural effort was proposed. Economies in construction and in the use of scarce materials were also stressed. Plans of economic and social development are an essential means for meeting the two-fold challenge of development and defence. This challenge demands both more rapid economic development and greater progress towards social justice.

Efforts to mobilise resources for development, which were already under way, were considerably enlarged under the stress of the emergency. Against a target of additional taxation of Rs. 1,750 crores indicated in the Third Plan, during the first three years of the Plan, the Central and State Governments have undertaken taxation yielding about Rs. 2,400 crores over the plan period. Investment in many strategic areas has been at a high level and has also increased steadily from year to year. With assistance from friendly countries and from international agencies, foreign exchange requirements have been substantially covered in some sectors, notably in power, expansion of steel plants, railways, ports and oil. However, in a number of important fields there are still significant gaps and import requirements for components and raw materials are not being adequately met.

The first year of the Third Plan was marked by power shortage and transport difficulties, specially in respect of coal. A series of short-term measures were taken to deal with these problems. At the same time, to avoid imbalance in the future, plans for the development of power and transport were augmented appreciably. From the beginning, efforts have also been made to intensify the programme for agricultural development and to improve its implementation. More recently, high level study teams were sent out to confer with the States and devise further measures for accelerating agricultural production. The progress of industrial programmes has also been closely followed and steps to improve the pace of utilisation of external assistance allocated to projects have received special attention. Developments in different sectors of the economy, the problems which have been encountered and the policies and measures which are being adopted are described at some length in the relevant chapters of this report. It may be useful here to bring together some of the more important aspects to which the mid-term appraisal of the Third Plan has drawn special attention.

In the Third Plan the largest emphasis was placed on agriculture, which obviously holds the key to rapid economic growth. During the first two years of the Plan, seasonal conditions were unfavourable, and the actual levels of production of food grains and other crops did not correspond with the efforts being made to increase agricultural production. In the nature of the things, in a country like India in which, over large areas, the volume and distribution of rainfall are a decisive factor in agriculture, it is difficult to achieve a steady rate of growth in agricultural production from year to year. This makes it all the more essential to secure high yields per acre in areas with irrigation and assured rainfall. The community development movement with its basic framework of extension services now covers almost the entire countryside. In the scheme of development greater emphasis has, therefore, to be given to the development of scientific and progressive agriculture in an intensive manner in areas with relatively favourable agricultural conditions. This approach is being followed in a number of areas which have been marked out for intensive development. Efforts are also being made to make available for agricultural development increasing resources in finance, supplies and personnel. In those areas which are less developed or have considerable unemployment and underemployment, the agricultural effort is being stimulated through the rural works programme for the better utilisation of the available manpower resources. It is to be hoped that Panchayati Raj institutions will give the utmost emphasis possible to the development of agriculture and the achievement of high yields and will try to harness the manpower and other local resources of each area.

Effective organisation and co-ordination at each level is essential to the success of agriculture. Considerable thought has been given to this aspect, for instance, in respect of co-ordination between agencies concerned at the State and district level with agriculture, community development, co-operation and irrigation, and the strengthening of extension machinery at the block and village levels. Problems relating to the utilisation of irrigation, specially from large projects, have also received continuous attention and much stress has been laid on each area having a detailed plan of operations for achieving speedy utilisation of irrigation and attaining the maximum agricultural potential. The specific tasks and processes involved are by no means easy of fulfilment, but the efforts now in progress are correctly conceived and should yield results.

Since the beginning of the Second Plan, valuable experience has been gained in planning for industrial development and executing industrial projects. The importance of co-ordination and inter-related planning for industry, power and transport is fully appreciated, and the Ministries concerned and the Planning Commission endeavour to maintain a close watch on common problems in these sectors. It is also recognised that the provision of facilities for power and transport should be undertaken, to the extent possible, well in advance of actual requirements. These considerations have been borne in mind in implementing the Third Plan and also in planning for the future. However, there are some aspects where the existing arrangements need to be considerably strengthened. Thus, in a number of projects, estimates of cost and estimates of time required have tended to be optimistic. To an extent, changes in cost estimates and in the time schedules are inevitable, but it is essential that they should be kept to the minimum. This object can be achieved if careful technical and economic studies are undertaken at the stage of planning and systematic programming is undertaken in relation to all phases of a project. From this aspect, the main stress has to be on strengthening the existing technical organisations and, where necessary, establishing new organisations for preparing technical project studies and designs. In major fields, such studies should be undertaken as part of continuing programmes of work. This would facilitate the correct selection of projects. It would also make for greater continuity in planning so that, as investigations are completed, new projects could be approved for necessary action.

In the plans of industrial development, public and private sectors have important complementary roles. In the Third Plan a wide range of important tasks were assigned to the private sector. However, progress on the part of private industry has lagged behind in a number of key areas, such as, alloy tool and stainless steel, steel castings, steel forgings, machine tools, fertilisers, cement, paper and newsprint and in some chemical industries. Shortfalls in these fields will have repercussions on future development and it is necessary to devise appropriate means for ensuring that major targets assigned to the private sector are in fact realised in keeping with the requirements of the economy and the scheme of the Plan.

The Third Plan had visualised a substantial effort for increase in exports. The programme for exports is now being implemented as an integral part of the country's development plans. There has been already a measure of response, but to raise the annual level of exports by about a third over the five-year period and to double exports by the end of the Fourth Plan, are uphill tasks. In this connection, reference may be made to a problem, which affects production both in the private and the public sectors. There is at present an appreciable gap between the available capacities in a number of industries and the extent to which these are being utilised. In part this is a question of allocating foreign exchange to meet critical shortage of components and raw materials. This difficulty becomes easier to resolve to the extent to which exports expand and external assistance is available for non-project imports. At the same time, it is important that requirements of imported components and raw materials in the future should be kept to the minimum. This calls for systematic import substitution in each industry and forward planning for the effective and co-ordinated use of all available indigenous capacities.

An important aim in the Third Plan is to ensure substantial expansion in employment opportunities and fuller utilisation of the country's manpower resources. As against increase in non-agricultural employment of 10.5 millions visualised over the plan period, it is reckoned that in the first three years about 5 million additional jobs might be created. Thus, relatively larger numbers have to be supported by agriculture. Development programmes in the Plan are now supplemented by the rural works programme, which is being implemented in 800 development blocks and is to be steadily expanded. While implementing plans of development, more pointed attention needs to be given to the size and complexion of the problem of unemployment and under-employment in each area. Programmes and schemes in the Plan should be so worked that they produce the maximum impact on the total employment situation in each region.

In education and in social development programmes generally, considerations of quantitative expansion have tended to receive greater attention than measures to raise standards. In all programmes for the development of human resources, it is essential to stress improvement in the quality of the service rendered and in standards of training and teaching.

Improvements in living conditions and the rate of economic progress are closely related to the growth of population. The Third Plan stressed the key importance of family planning for stabilising the growth of population. A greatly enlarged programme with considerable strengthening of the machinery for implementation, both at the Centre and in the States, is an imperative need. The participation of the entire medical profession, of social workers and voluntary associations and of all organised undertakings and offices should be enlisted in this programme along with the various official agencies entrusted with its execution.

In the implementation of plans and policies there is need for greater emphasis on the social objectives of planned development, in particular, on bringing about reduction in disparities in income and wealth and ensuring the basic necessities to the weaker sections of the population. On these aspects of development, a number of proposals were set out in the Third Plan, including those relating to expansion of opportunities for employment, development of education and social services, grants of scholarships and other forms of aid, provision of minimum amenities in rural areas, extension of social security and adoption of appropriate fiscal and other policies.

The existing planning machinery in the States needs early strengthening in view of the wide range of responsibilities being cast upon State Governments. The aspects to be specially emphasised are evaluation, man-power planning, mobilisation of resources, technical project studies, arrangements for obtaining statistical information and systematic reporting and review of progress.

While efforts to mobilise resources for the Plan have been on the whole encouraging, there are some States which are experiencing difficulties in raising resources on the scale envisaged in their plans. Additional taxation undertaken in these States has been low in comparison with their initial targets. These States will find it difficult to fulfil their plans without further steps to strengthen their financial position. In this connection, it may be mentioned that in some States there has been recently a degree of pressure to shift funds as between different heads of development, thus departing from the scheme of allocations agreed under the Five Year and the Annual Plans. Such diversions are likely to cause set-backs in development in fields like agriculture and co-operation and may affect social programmes to which high priority has been given. It is important that planning procedures in the States should be designed to avoid diversions of funds which may upset national and State priorities.

One of the main lessons of the emergency bears on the need to view the needs of defence and development together, both in the Third Plan and in planning for the future. Defence production and civil production have to be viewed together at each step in terms of a common and continuing economic plan, which comprehends production, transport, power, research, training and use of technical and scientific manpower, as well as wider social goals. The emergency demands ever stricter tests of efficiency, speed and initiative. Already, the Third Plan had vast administrative implications and called for high standards of efficiency, co-ordination and concentration of resources at vital points and the participation of millions of people in the national endeavour. The emergency has further enhanced the significance of these conditions.

ADMINISTRATION AND PLAN IMPLEMENTATION

THE critical role of measures to strengthen administration and ensure effective implementation of the Plan was stressed in the Report on the Third Five Year Plan. In sections of the Report concerned with different aspects of development, detailed proposals were made with a view to securing efficient execution. The Plan also outlined proposals relating to public enterprises, in particular for improvements in the planning of projects and their efficient organisation and management both in the construction and production phases.

In recent years a wide range of measures to strengthen administration have been taken or initiated, both at the Centre and in the States. Yet, in their practical aspects problems of implementation are still of formidable dimensions, and events since the beginning of the Third Plan have further emphasised the need for concentrated and sustained action towards the attainment of high levels of performance, better training of personnel, systematic reporting and evaluation and greater responsibility and initiative on the part of different agencies within the administrative structure. The need has also been felt for greater co-ordination between different agencies whose activities bear upon one another or are complementary in character, not only at the national or State level, but also within each region and area.

MACHINERY FOR ADMINISTRATIVE IMPROVEMENT

As visualised in the Draft Outline of the Third Plan, a high level Committee on Administration has been constituted within the Central Government. The senior officials serving on the Committee are expected to provide a degree of leadership from within the administrative structure, to give continuous attention to problems of efficiency in administration, to review action taken by the various Ministries and to propose from time to time further measures for raising the standards of administration. It was hoped that similar bodies would be constituted by State Governments. Since the commencement of the Third Plan, several States have taken concerted measures to increase administrative efficiency and to bring close study to bear on their administrative problems. In Maharashtra, implementation of instructions relating to organisation and methods is reported to a Standing Committee presided over by the Chief Minister. For over a year an Administration Reorganisation Committee has been engaged in a comprehensive review of the administrative machinery of the State with a view particularly to increasing its capacity for undertaking more extensive development programmes. A special work study unit is undertaking a series of detailed investigations into the organisation and functioning of different departments in the State. In Madhya Pradesh, a committee of ministers was constituted for suggesting measures for achieving efficiency and economy. In a number of States, notably Andhra Pradesh, Assam, Gujarat, Madras, Madhya Pradesh, Mysore and Uttar Pradesh, Committees on Administration have been constituted with responsibility for locating administrative deficiencies and proposing measures for removing them. Incentive schemes have also been introduced in a number of States.

EFFICIENCY AND STANDARDS

In the immediate post-war period, extremely rapid expansion in the business of government had led to a degree of dilution in personnel and lowering of standards in the disposal of work. For several years, therefore, the major concern of Organisation and Methods units was to improve the general procedures followed in secretariat departments and executive agencies. New office manuals were drawn up and procedures laid out. More recently, special attention has been given to the training of lower grades of personnel. Since the beginning of the Third Plan, two significant developments at the Centre have been the decentralisation of the Central Secretariat Service and the introduction of a new scheme for financial and budgetary control which provides for enhanced delegation of powers to the Ministries. Considerable stress has also been laid by the Organisation and Methods Division of the Cabinet Secretariat and the Special Reorganisation Unit in the Ministry of Finance on work studies as a means of evolving improved methods and procedures. Work studies have been undertaken, for instance, for simplifying and rationalising procedures relating to foreign exchange sanctions for public sector projects, delegation of powers in river valley projects, indenting and inspection of stores procured through the Directorate General of Supplies and Disposals and house-keeping jobs common to various Ministries. Proposals for simplification of the Public Works Account Code have also been drawn up by a special working group set up by the Committee on Administration and a revised Code is to be introduced in the near future.

The question of evolving suitable measures for ensuring integrity in administration has been a matter of constant concern. In June 1962, the Ministry of Home Affairs appointed a Committee on Prevention of Corruption to examine and make recommendations concerning Vigilance Units in the Ministries of the Government of India, the Special Police Establishment, Government Servants' Conduct Rules and certain other administrative and legal aspects of the problems of securing a climate of integrity both among public servants and within the community. In the course of its work, the Committee has already made certain recommendations on which action has been intiated or is under consideration.

TRAINING AND PERSONNEL

For some years it had been felt that in several technical fields State services alone could not attract sufficient talent of the highest quality and, consequently, development in these fields tended to suffer. For this reason and for securing greater national integration, in consultation with the States, it was agreed that All-India Services should be constituted for Engineering, Forest and Medical and Public Health. Accordingly, the All India Services Act, 1951, has been recently amended to provide for three new All-India Services—the Indian Service of Engineers (Irrigation, Power, Buildings and Roads), the Indian Forest Service and the Indian Medical and Health Service. Proposals for constituting an All-India Agricultural Service have been recently agreed to in principle at a conference of State Agriculture Ministers and are under consideration. A scheme for constituting an All-India Education Service is being considered. The Central Government has also constituted new Economic and Statistical Services and selections for appointment to the two Services at the initial constitution have been made by the Union Public Service Commission.

At the instance of the Planning Commission, Shri V. T. Krishnamachari undertook a study of the Indian Administrative Services with special reference to requirements over the next five years, methods of recruitment and training. The cadre of the Indian Administrative Service increased from 803 in 1948 to 2,252 in 1962 and is expected to rise to 2,400 by the end of the Third Plan period. The recommendation of the Second Pay Commission in favour of raising the age of superannuation for officers of the Indian Administrative Service to 58 has been accepted and orders have been issued in respect of the Central and the All-India Services. Following the Central Government's decision, many of the States have also raised the age of retirement to 58. Shri V. T. Krishnamachari's study of State Administrative Services has shown that in some States sufficient attention was not being given to building up cadres and the requirements of personnel were frequently under-estimated. One of his main recommendations is that a minimum of 50 per cent of the posts in the State Administrative Services should be filled through competitive examinations held by Public Service Commissions and there should be regular annual examinations according to a carefully devised programme. States have also been urged to establish Training Institutes for State Services and to arrange refresher courses for them at appropriate stages in the service. Such institutions have been already established by a few States, such as Assam, Bihar, Gujarat, Mysore, Orissa and Uttar Pradesh. Officers of the State Services constitute the middle grade of the public service and they have a most important contribution to make to the efficiency and success of the entire machinery of Government. Another important recommendation made by Shri Krishnamachari concerns the need for continuing administrative and technical officers in their positions for long periods. At present, in many cases, they are transferred frequently. This has adverse effects on efficiency. It is recommended that each State Government should carefully investigate the reasons for such transfers and take steps to make such adjustments in its administrative procedures as will reduce transfers to the absolute minimum.

In addition to administrative personnel since the beginning of the Third Plan, some States have taken steps to strengthen their cadres in different technical fields, such as agriculture, co-operation, animal husbandry, fisheries, health and others. To an extent they have also improved the terms and conditions of service. However, in a number of States these are not yet adequate for attracting sufficient number of first and second class graduates into the public service. In this connection, it must be observed that both at the Centre and in the States much more attention should now be given to advance planning of personnel. As was stressed in the Third Plan, in each field of development, personnel requirements should be estimated carefully over a long period and the necessary preparatory measures should be taken sufficiently ahead of the actual requirements.

REPORTING, EVALUATION AND RESEARCH

During the past two or three years, in a number of States steps have been taken to improve the system of reporting on Plan projects and schemes. Monthly progress reports on selected projects and quarterly progress reports on all schemes included in their plans are being obtained by the Departments concerned and subjected to review by official committees and cabinet sub-committees. While arrangements for reporting within each State have improved, those relating to reporting as between the States and the Centre are not yet quite satisfactory. It is necessary to arrange for a special study of this aspect of the problem of Plan implementation, so that difficulties which the Planning Commission and the Central Government generally experience in obtaining information on progress from the States at regular intervals may be eliminated.

Since 1952, the Programme Evaluation Organisation of the Planning Commission has undertaken the evaluation of agriculture and community development programmes, and its studies have been helpful in identifying problems and difficulties. During the past three years, the Programme Evaluation Organisation has undertaken a number of intensive problem-oriented studies. These include evaluation of minor irrigation, soil conservation, multiplication and distribution of seed and the rural works programme. To provide guidance to the Programme Evaluation Organisation and to assist Central Ministries and State Governments in developing evaluation and arranging for training of personnel, an Evaluation Advisory Board has also been set up by the Planning Commission. Special study teams set up under the aegis of the Committee on Plan Projects have also undertaken a number of investigations. These include selected irrigation projects, problems of industrial management, inventory control, construction costs and economies, minor irrigation and seed multiplication and distribution. While, from time to time, the Committee on Plan Projects may constitute study teams for investigating specific problems, its major concentration in future will be on management studies and reduction in construction costs.

An encouraging development in several States since the commencement of the Third Plan has been the establishment of evaluation units to which specific problems are remitted for study. Thus, in Maharashtra, an evaluation wing has been recently established in the Planning section of the Finance Department. The State Bureau of Economics and Statistics has carried out evaluation studies on questions such as rural electrification programme, estimation of area under improved agricultural practices, distribution of fertilisers through co-operative societies and the working of the scheme for the free education of students from economically backward sections. In Andhra Pradesh, a State Evaluation Committee has drawn up reports on a number of Plan schemes including, for instance, consolidation of holdings, housing colonies for Harijans, State seed farms and the rural compost scheme. In the Punjab, the Economic and Statistical Organisation, which functions within the State Planning Department, has prepared evaluation reports on such subjects as the low income housing scheme, working of technical institutions, survey of improved agricultural practices in community development areas and the utilisation of loans advanced to small-scale industrial establishments. In Rajasthan there is a permanent evaluation organisation which undertakes, amongst others, a continuing study of the working of Panchayati Raj. In West Bengal and Madhya Pradesh also evaluation studies of selected projects have been undertaken. The Planning Action and Research Institute in Uttar Pradesh has also an extensive and continuing programme of studies. These recent developments in the field of evaluation will have considerable significance in the future, not only for the States concerned but also for other States and for national planning. It would be useful for each State to examine the results of studies undertaken by the Programme Evaluation Organisation and the Committee on Plan Projects and others in the light of their own experience and conditions and adapt such of the recommendations as might assist them in improving the working of their development programmes. On its part the Planning Commission will also endeavour to bring together the main findings of various agencies, including evaluation units in the States, and to make them more generally available.

In the formulation and implementation of policies and programmes for development, economic and social research has an increasing contribution to offer. Over the past decade, the Research Programmes Committee of the Planning Commission, which includes leading economists and social scientists, has determined significant areas of research and assisted studies and investigations by scholars associated with universities and research institutions. So far about 170 research projects have been sponsored and 97 have been completed. For the period of the Third Plan, the Research Programmes Committee has indicated a number of topics requiring special study. These include macro-economic studies of the Indian economy, regional development, land reforms, rural development and co-operation, problems of social change and welfare, organisation and administration in relation to planned development and selected labour problems. As a further step in pursuance of the same general objective, with funds recently provided by the Ford Foundation, five leading research institutions in the country are being assisted in augmenting their research and teaching staffs with a view to undertaking research in basic problems relating to planning and development. The main topics on the basis of which specific programmes of work are being adopted by different institutions include studies relating to economic growth, financial resources, price policy, exports, agricultural and industrial development, utilisation of capacity, demand projections, productivity, investment and pricing policies of public enterprises and transport and power in relation to economic development.

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MANAGEMENT OF PUBLIC ENTERPRISES

When the Third Plan was drawn up, there was considerable concern about the organisation and management of public enterprises and arrangements for the preparation of projects. Efforts have since been made to give effect to several of the recommendations in the Plan. The Ministry of Finance have already presented two annual reports on the financial aspects of Central Government undertakings. The proposal to constitute a Committee on Public Undertakings, to be elected from amongst members of the Lok Sabha, is at present under the consideration of Parliament. It is visualised that the functions of the Committee may include, amongst others, examination of the reports and accounts of specified public undertakings and examination, in the context of their autonomy and efficiency, whether they are being managed in accordance with sound business principles and commercial practices. The Hindustan Steel Limited has been reorganised and the powers of General Managers of individual plants have been considerably enhanced, the Board of Directors functioning as a policy making rather than as an operating body. A further step in the direction of autonomy and decentralisation has been recently taken in respect of the Durgapur Steel Plant and the Sindri Fertiliser Factory with the object of placing a large measure of operating authority at the plant level and minimising scrutiny by the Ministry of Steel and Heavy Industries and the Hindustan Steel Limited and the Fertiliser Corporation of India in day-to-day operation at the plants. With the greater experience which has been built up in recent years, Boards of Directors of public enterprises should now be better able to provide guidance and direction to matters of policy to the General Managers of individual industrial units. In various enterprises special attention has been given to training and personnel relations. Several enterprises have introduced incentive schemes for their own staffs. There is also steadily increasing liaison between some of the public enterprises and the national laboratories.

Through public enterprises which have been established specially since the beginning of the Second Five Year Plan, considerable advance has been made in terms of skill, experience and organisation. However, the stage is yet far from being reached

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when it can be claimed that time-schedules, cost estimates, flow of benefits and returns on investment generally conform to the basic assumptions made when individual projects are approved. As far back as 1961, the Committee on Administration made a series of recommendations for strengthening arrangements pertaining to the preparation and management of projects. One of the main weaknesses observed in several enterprises is that the programme under implementation is not mapped out and scheduled in advance in sufficient detail. This has had two consequences. Firstly, because of inadequacies in the plan of operations, in the statement of requirements, and in specifying obligations on the part of various agencies, many of the assumptions made in a project are either not fulfilled or are fulfilled only after some delay or at greater cost. Secondly, reports on the progress of individual projects are not related to definite and clearly stated plans of operations. Therefore, they fail to provide a satisfactory measure of progress or to afford sufficient guidance in anticipating difficulties and finding solutions. Thus, some of the major problems of implementation of projects in the public sector fall within the area of *programming*, both physical and financial, and *reporting*. An important aspect of programming is the setting and achievement of time-schedules in the execution of a project. A study of the various aspects of programming would throw into relief many other problems, including those which arise within a project as well as those which involve the Ministries and other authorities.

With the object of envolving suitable systems of programming and for reporting on performance in projects of different kinds undertaken in the public sector, the Planning Commission is at present engaged in a study of fifteen selected projects. In these studies which are being undertaken in co-operation with the managements of the projects, an attempt is being made to utilise and adapt some of the management planning and control techniques which have been developed in recent years. The projects under study are :

Industry—

Rourkela Steel Plant (Hindustan Steel Ltd.)
Heavy Electrical Plant, Bhopal.

Machine Tool Plant, Pinjore (Hindustan Machine Tools.)
Trombay Fertiliser Project (Fertiliser Corporation.)
Hindustan Shipyard.
Indian Telephone Industries.

Minerals—

Bisrampur Coal Mines Project (NCDC)
Kiriburu Iron Ore Project (NMDC)
Dugda Coal Washery (Hindustan Steel Ltd.)

Power—

Chandrapura Power Station (DVC)
Dhuvaran Power Project (State Electricity Board, Gujarat.)

Transport and Communications—

Shipping Corporation of India
Indian Airlines Corporation
Delhi Transport Undertaking
Railway Electrification—Calcutta-Asansol.

Projects in different fields have their own distinctive features and each individual project has its special problems. Nevertheless, it is hoped that the study will be of some help to the managements concerned in developing improved systems of planning and control in relation to their own projects and their experience may, in turn, be of use to other projects of the Central and State Governments.

PLANNING MACHINERY AND PROCEDURES

In the Report on the Third Plan it was pointed out that large burdens were now being placed on planning organisations in the States and there was need to strengthen the existing arrangements and machinery for planning at the State level. While there must be a degree of flexibility in the arrangements which might be desired, States would need to equip themselves for undertaking the preparation of long-term plans in different fields of development, economic and technical investigations, and watching of progress in the implementation of policies and programmes. With the introduction of Panchayati Raj, it had become specially important that there should be integrated implementation and the institutions at the district and block level should be suitably assisted in carrying out the responsibilities entrusted to them. In improving the machinery for planning in the States, the aspects to be specially emphasised are reporting and evaluation, man-power planning, study of resources, arrangements for obtaining statistical information and systematic reviews of progress. The preparation of the Fourth Five Year Plan and the long-term plan up to 1975-76 in the period immediately ahead makes it essential for States to take early steps to equip their planning machinery for various tasks.

An aspect of Plan implementation which has presented some difficulty during the past two or three years relates to the working of arrangements for the financing of the plans of States. In a number of States adequate measures have been taken for mobilising resources in accordance with the scheme of the Third Plan. However, in those States in which their own resources have fallen short, dependence on Central Assistance (which forms part of the scheme of finance for State plans) has been accentuated. Because of the limited resources available and large unsatisfied demands from the Departments, there has been constant pressure to shift funds as between different heads of development contrary to the scheme of allocations agreed for the Annual Plan. Such diversions have tended to cause set-backs in development in fields like agriculture and co-operation and certain social programmes of high priority have also been affected. In the working of State plans, a measure of flexibility is of course desirable. However, while providing for adjustments in outlays under different heads in accordance with the prescribed procedures, it is equally necessary that diversions of funds such as are likely to upset agreed national priorities should not take place.

When the Third Plan was being considered, State Governments indicated the areas and the regions which they regarded as being particularly backward. Allocations of resources for development in these areas were marked out, and in the subsequent Annual Plans efforts have been made to adhere to these special allocations. The Third Plan contemplated that more systematic surveys would be undertaken to identify the less developed areas in each State. To enable States to study the levels of development in different areas and to determine the areas calling for special development measures, a list of indicators of State and regional development was drawn up by the Planning Commission and communicated to State Governments. The data received are under study. A pilot survey of the economic problems of four districts in the eastern parts of Uttar Pradesh is being undertaken by the Planning Commission with the object of evolving a planned approach of the problems of less developed areas.

It was envisaged in the Third Plan that in the next phase of planning, as many towns and cities as possible and, at any rate, those with a population of 100,000 or more, should come into the scheme of planning in an organic way, each city mobilising its own resources and helping to create the conditions for a better life for its citizens. This is an important stage in the growth of national planning. By way of preparation, in August 1962, State Governments were asked to invite cities, which have municipal corporations, to draw up development plans (as part of the State plan). These plans were to comprise proposals for land acquisition and development, urban water supply, sanitation and drainage, housing (specially industrial housing and low-income housing), slum clearance and improvement and provision of sweepers' quarters, primary and secondary education including vocational and technical training at the secondary level, medical and health facilities, adult literacy and education and development of rural areas falling within the municipal limits. Owing to the onset of the emergency the scheme could not be implemented with the Annual Plan for 1963-64. It is hoped that State Governments will be able to embody development plans for at least a few selected cities in their Annual Plans for 1964-65 and 1965-66.

DISTRICT DEVELOPMENT ADMINISTRATION

At the suggestion of the Planning Commission, Shri V. T. Krishnamachari has studied problems relating to district administration arising from the introduction of democratic institutions at the district and block levels. In his report he has placed special stress on the preparation and implementation of village agricultural production plans, block development plans and district development plans. He has emphasised the need for the network of administrative and technical services in the States to continue to function as a well-knit structure at all levels, with duties clearly defined and enforced and an uninterrupted chain of responsibility in administrative and technical matters reaching down to the village level. The report also includes proposals for securing greater co-ordination between urban and rural development plans, both at the district and at the block level.

The expectation that integrated district and block plans might serve as an effective means for stimulating economic and social development has been so far realised only to a small extent. Nevertheless, useful experience has been gained and, with clearer determination in each State of the administrative processes and operations involved, more rapid progress can be realised in the future. In most States district schemes have been already marked out from State schemes. However, in the implementation of plans assigned to districts and blocks, there is need for much greater delegation of powers, both administrative and technical than exists at present. It is observed that there is a tendency on the part of each Department to implement its schemes under the Five Year Plans without affording sufficient opportunity for modifications to suit local conditions. Financial and administrative sanctions for schemes to be implemented in districts are frequently delayed. It is necessary that during the next two years or so, in every State, district and block plans should be made an effective component in the planning process; otherwise, even in the Fourth Plan, local plans will not have a significant role, and vast development possibilities will remain untapped. It has to be emphasised that the success of Panchayati Raj will turn almost wholly on the efficiency of planning and the quality of implementation at the district and block level. Similarly, village agricultural plans can be worked out most conveniently within the general frame of facilities provided through district and block plans.

In recent years, although sufficient success has not been achieved in the preparation and implementation of district and block plans, there is already considerable accumulated knowledge of the relevant problems. In most States, from time to time, instructions have been issued to departments and to local authorities. In Maharashtra, a scientific approach to the survey of resources and the preparation of development plans is being made in the Wardha district with the assistance of the Gokhale Institute of Politics and Economics. While, at this stage, the broad direction is fairly clear and some of the essential administrative techniques have been established, there is both need and room for closer study. With the object of assimilating the experience thus far and identifying the problems, approach and methods of planning at the district, block and village levels, the Conference of State Ministers of Community Development and Panchayati Raj agreed in August 1963 that a Handbook on the preparation and implementation of district, block and village plans should be drawn up to serve as a general guide in the States. This task is to be undertaken jointly by the Planning Commission and the Ministry of Community Development and Co-operation.

REDUCTION OF CONSTRUCTION COSTS

Construction costs account for a substantial proportion of expenditure incurred in different fields of development. For this reason, in the Report on the Third Plan special attention was given to measures which could be taken by Central Ministries and State Governments for securing economies in construction costs. Questions relating to cost reduction were investigated by the Buildings Projects Team of the Committee on Plan Projects. Various aspects of the subject were further considered in a Memorandum on 'Reduction in cost of major construction projects', which was drawn up by the Planning Commission in May 1962, and which offered suggestion, amongst others, concerning (a) planning, investigations, and preparation of project reports, (b) problems of implementation, including proposals regarding inventory control, choice of construction agencies, types of contracts, systems of payments, etc., (c) development and utilisation of highly trained manpower and (d) completion reports of projects and technical bulletins. The Planning Commission has proposed to Central Ministries and State Governments that the head of each major project should be given the assistance of a well-equipped cost reduction unit, whose main function would be to look out constantly for areas or specific points in respect of which appropriate action could result in reducing costs without impairing functional efficiency. The unit is intended to analyse continuously factors affecting costs, recommending suitable adjustments from time to time in respect of materials, techniques, sequence of construction, procedures and organisation, and evaluating and watching the progress of action towards achieving economy in construction costs. It has also been suggested that both at the Centre and in the States, there should be high level technical committees for reduction of construction costs which could review, from time to time, action taken by different agencies in implementing proposals for effecting economies in construction and could formulate fresh recommendations in the light of experience and the results of research into methods of construction, materials and designs.

PART II

General

IMPLEMENTATION : A CONCEPTUAL FRAMEWORK

RAGHBIR S. BASI

ADMINISTRATION may be viewed as the direction of human effort for the accomplishment of specific goals. It is the process of lending order to work so that it may proceed purposefully and efficiently. It consists of two inter-connected, but individually identifiable, exercises : planning and implementing. In commonsense usage, these exercises are called thinking and acting. The two activities are not mutually exclusive, but neither are they mutually inclusive. The latter is conditioned by the former and is dependent upon it, but does not necessarily follow.

The administrative process is carried out through the instrumentality of an organisation, where the process of decision-making is the core activity. The process of administration which an organisation carries through is only as dynamic as the process of decision-making.

Planning involves (i) identification of objectives, (ii) the establishment of premises and policies and (iii) the blueprinting of a detailed plan of action in terms of manageable projects.

Implementation involves (i) programming the individual projects, (ii) actuating or providing the necessary leadership and (iii) exerting the controls in order to examine whether work on the plan of action is proceeding as programmed. Since implementation is the object of concern in this paper, the various aspects of it are developed further.

Programming : Adequate programming is the first essential step for successful implementation. It provides the yardsticks which act as guides in controlling actual work progress.

Conceptually, programming involves identifying the various outputs, arranging their production into a time sequence, pinpoint-ing accountability to carry out production, preparing detailed schedules for the financial, physical and manpower resources required, and tying them with the time sequence of outputs already established. It is essentially a three-step operation.

First, it means identifying and, if necessary, grouping the various outputs and putting them into a time sequence. For construction projects, it is necessary not only to give the beginning and completion date for each facility, it is also necessary to detail the rate of progress for each component as well as for the project as a whole. For production enterprises, it is necessary to identify the outputs and prepare production schedules in a detailed manner.

Second, it means fixing accountability within the over-all organisational framework for accomplishing the work as suggested above.

Third, it means preparing detailed estimates of monetary, material (including machines) and manpower resources which are required to carry out the various units of work, and to schedule these requirements in accordance with the time sequence of the construction or production schedules already established. It may be stressed that it is equally important to provide the basis for the estimates so that they can be used as standards when actual performance is sought to be measured as against the scheduled.

Actuating : Actuating may be viewed as the process by means of which a manager directly, and personally, influences the behaviour of those who work with him, and by which his subordinates, in turn, feed back information that is vital for him to accomplish action. It is a dynamic relationship which is both personal and active. It is personal because it implies close man-to-man relationship. It is active because it is of an evolving nature wherein there is a two-way communication between the manager and his subordinates. In a sense, they both affect the behaviour of each other.

Conceptually, the process of actuating involves (i) carrying out effective communications between the supervisor and his subordinates as to what is sought to be accomplished, (ii) provision of leadership so that the subordinates are properly motivated, and (iii) the exercise of adequate discipline so that those subordinates who function constructively are rewarded, and sanctions are applied against those who do not. These aspects may be called communicating, leading and disciplining. They are elaborated below. Sociologically speaking, actuating involves the fusing together, by the supervisor, of the organisational goals with the interests of the individuals and those of the groups to which they belong.

Communicating : Communications may be looked upon as an interchange of thoughts, facts, opinions or emotions between two or more people. It is a two-way process. The essence of effective communications is whether the transmitter is able to make the receiver fully comprehend what is sought to be transmitted.

Leading : Leadership may be looked upon as the capacity to influence others to strive willingly towards mutually agreed-upon objectives. The job of an appointed leader is much harder than that of an informal leader. A supervisor needs to be adroit in human relationships as well as the use of authority in order to be effective in motivating his subordinates.

Disciplining : Discipline may be looked upon as the art of securing co-operation from subordinates through the actual or implied use of rewards and sanctions. Disciplining may not have a necessarily disagreeable connotation. An effective supervisor should apply rewards just as often as sanctions, if not more often. The important thing is to institute a schedule of rewards and sanctions, make it known to all concerned, and then administer it in an objective manner. Disciplining is essentially a constructive activity, and it may be said to be successful only if it motivates subordinates towards constructive compliance.

Controlling : A control system may be viewed as the mechanism which seeks to assure that actual progress of work in an enterprise is being accomplished in accordance with the established standards.

Conceptually, devising a control system is a rather simple task. First, it is necessary to identify meaningful control units. They could comprise the end products in a particular operation or selected items may be picked. Then the need is to isolate the critical aspects of the control units which are sought to be controlled *i.e.*, quantity, time use, quality, public acceptance, etc. Then, standards need to be established for each one of these aspects. And finally a reporting mechanism needs to be worked out, in order to measure the actual performance as against the established standards taking the control units as the basis.

The initial establishment of the standards is a difficult task. But fortunately they do not have to be too precise right from the start. Experience should provide the needed information to refine them over time.

The devising of the reporting mechanism is quite tricky. Generally there should be separate, but brief and concise reports for each of the critical aspects showing actual performance as against standards. Then they should be combined in an over-all performance report, if possible in chart form, giving a visual rather than narrative presentation. Many formats may need to be tried for such control reports. Indeed, there is generally always room for improvement. But with resourcefulness and goodwill it should not be too difficult to devise a meaningful control system right from the start.

To summarise, the following may be re-emphasised. Programming must have money, materials (including machines) and personnel requirements fully spelled out and tied to the sequential progress of output schedules. Only then would it be useful as a basis for actuating and control. Actuating means that the supervisor must effectively communicate with his subordinates, so that they not only understand what is expected of them but accept it, motivate them so that they are inspired to accomplish it, and be ready with rewards and sanctions so as to insure their constructive compliance. Controlling involves identifying the control units, isolating their critical aspect, establishing the standards for the critical aspects, and devising a reporting mechanism which would measure actual performance as against the standards.

The variances thrown up by the control mechanism would form the basis for a reappraisal of the original standards and the process of implementation. This reappraisal becomes the feedback for the modification, if necessary, of the total administrative process.

APPROACH TO ADMINISTRATIVE REFORM

TARLOK SINGH

IMPLEMENTATION is a fair measure by which to assess the immediate impact of an idea, a policy or an institution. However, the quality of implementation is influenced by a variety of factors, only some of which can be seen at the surface. The current state of administration is often painted in such broad strokes as enormous delays, high levels of expenditure on personnel and small contribution to public well-being. Such labels tend to stick. They are in fact symbols which reflect both a degree of substance and a degree of exaggeration and have to be taken seriously. Through action at several planes this image of public administration in the country must be transformed. Yet, the current picture is far from being the whole truth. It is possible to cite many illustrations of failure in all walks of life. Equally, there are many more instances of trust well discharged and duty faithfully rendered which may go unnoticed. Despite strains and inadequacies, the system works, but not without friction, rigidity and lack of understanding, which often leave behind a sense of discontent. What is true for the larger part must come to be true for the whole. This is not to suggest that the problem is either small or merely of a residual nature, for the cracks in a wall have to be traced to weaknesses which lie deeper in the structure. These weaknesses must be removed by policies and measures and changes in attitude and motivation which will strengthen the existing structures and, where necessary, put new ones in their place. There is indeed no time to fail. With the many positive assets we have, there is every reason for us to succeed. We have the essential consensus of values and goals, the institutions of freedom and expanding democracy, the acceptance of obligations and responsibility for welfare and opportunity for all citizens, and leaders and public servants at all levels, a high proportion amongst whom are imbued with the desire to serve the country to their best ability. These assets have not come by chance and are not to be lightly regarded, for no other nation placed in similar circumstances possesses them in equal measure. It is true, however, that to get the best value from the resources with us, both tangible and intangible, present and potential, in some ways we must be prepared to alter some of our sights and modes of thinking.

The nature and dimensions of the problem of administration at the present time are vastly different from those in the past. The responsibilities assumed by Government at various levels, the range and diversity of the social, economic and political aims to be realised, the expectations of the people, the limited time and the meagre resources at our disposal and the added burdens which the struggle for development throws upon the nation are all new phenomena, without parallel in the earlier period. Some attitudes carried over from the past have inhibited reform in administration and the streamlining of machinery. For instance, old notions of the relative place of official and non-official in national life persist. We still hesitate to pay men generously according to the worth of the work demanded of them and the training and equipment they must bring to it, and so fail to attract talent into vital fields like agriculture, education, research and social service. For a job that is worth doing, frequently we are not willing to provide enough men of superior calibre to do it well. We have not yet learnt to regard mistakes made in good faith for what they truly are, namely, the process by which men, institutions and nations learn their way to higher levels of performance. Above all, we often fail to provide the framework within which men can work with sufficient confidence, responsibility and initiative. In general terms no one will wish to deny the need for change in these and other directions, but when it comes to specific problems and solutions, frequently the approach is niggardly and acts as a constraint on responsible decision-making, speed and orientation to action, without which a complex administrative structure must find itself clogged and pulled back from within.

While our immediate concern is with the manner in which various projects and programmes in the Five Year Plans are carried out, it is necessary to remember that Plan implementation is only a major projection of the broader problem of speed and efficiency and responsiveness in administration. Doubtless, because of the Plans, the problem itself gains new dimensions and calls both for closer analysis and for more far-reaching measures. Here it is possible to touch upon only a few of its many ramifications. The heart of the matter is, firstly, to provide a framework for responsible initiative at each level, within each agency and on the part of each individual, and, secondly, to ensure that those to whom responsibility is assigned shall be accountable for the results. Given these two conditions, there are special problems of application to different areas of Plan administration, such as (1) policy and planning, (2) regulation, (3) management of undertakings, (4) extension, (5) public participation, and (6) administration in relation to the citizen.

There are two other major aspects of the problem of administration whose implications run right through the structure. The first concerns the relative role of democratically elected bodies and the public services in the execution of policies and programmes. The second relates to the most important role of State Governments in formulating and executing plans. It is not always recognised that in the last analysis efficiency in implementation, whether of Plan programmes or of the ordinary tasks falling upon Government, depends as much on correct policies and decisions, in which the Central Government has a large part, as on the manner of their execution at the level of the community, where the dominant share is that of State Governments. The partnership, on the one hand, between democratic bodies and the public services, and, on the other, between the Centre and the States implies not only common objectives but also common obligations and common standards, which it must be the equal concern of them all to uphold.

The importance of reorganising the administration and administrative procedures so as to facilitate responsible action and initiative at each point has been stressed in the Third Five Year Plan. The main elements which weaken administration from this aspect can be readily identified. In the first place, the objectives of policy and the tests and criteria to be adopted need to be stated explicitly. Often, they are set out in a form which leaves much to individual discretion or can be so interpreted. In other words, thinking on the general aspects of a policy should be carried to the degree of precision and sharpness required for effective implementation. In the second place, insistence on elaboration of the operational aspects of a plan on the part of those charged with execution should be regarded not as cumbersome detail or excessive instruction but as an organic element in the plan, being at the very least an appendix to the text if not part of the text itself. This operational plan must indicate the exact stages in which the job is to be done, the period assigned to each part of the job and the requirements in terms of men, material and finance, and in each case the estimates should be supported by authentic study. Where only tentative indications are feasible, they will be subject to change, and this should be clearly known. As the work advances, greater accuracy will come and uncertain features will be replaced by more definite data. Inadequate operational plans have been perhaps the weakest link in all plan implementation. This is to be traced to the novel nature of the tasks now being attempted and to the fact that in our administrative tradition operational aspects were left to be worked out by executive agencies and by men on the spot. This would be perfectly appropriate if the main resources they needed were largely at their command, as was the case in the administration of law and order and land revenue. Under planned development, the links between overall planning of capacities, materials, foreign exchange and other resources and planning at different levels are much more complex and only detailed operational plans can ensure the necessary interdependence in action.

Given clearly formulated policies and plans, the next step must be to ensure that the sinews are made available or, in other words, those entrusted with responsibility have means at their disposal by way of budgetary allocations, foreign exchange, materials and personnel to fulfil their tasks. There is much in the existing arrangements that calls for marked improvement. To a large extent, the issue turns on where the line should be drawn between central control and allocation decisions and initiative and freedom of action on the part of administrative and executive agencies. Experience suggests that, at the present stage, there should be much greater readiness to delegate in favour of executive agencies acting within the general framework of policies and procedures which are laid out in advance. Over a large area the existing practice of consultations and individual references should give way to meticulous pre-planning and regular flow of information on action taken and results attained. In no other way can the need for greater co-ordination on the broader aspects be reconciled with the equal need for the largest possible initiative in execution.

To a large extent, in administration we have been employing old tools to do new jobs. Many of these are good tools and can be adapted and improved, but they have to be supplemented as rapidly as possible in other ways. In addition to operational planning or programming, great stress must now be placed on systematic statistical and quantative data, management reporting systems, establishment of satisfactory criteria for evaluation and performance budgeting. We should also move as rapidly as possible in the direction of mechanical computation. Moreover, in each field decisions and policies should be increasingly supported and tested on the basis of technical and scientific as well as economic and social research.

Within the space of this article it is not possible to spell out the implications of the general approach outlined above for widely different aspects of administration, such as the management of public enterprises, extension, supplies and technical assistance, administration of controls, the role of voluntary organisations and problems of communication between different levels of administration and in relation to the general public. Even in a wholly unified and bureaucratic structure, these problems would by no means be easy to resolve. They are all the more difficult within a system in which, on the one hand, democratic institutions function at all levels down to the village and, on the other, the Centre and the States have entered together upon tasks of gigantic proportions. On these important aspects only a few words need to be said in this place.

In an open society, at each level in national life, democracy demands close working co-operation between non-official representatives and leaders and the public services. The relationship between these two groups of workers is well established at the national and State levels and in parliamentary practice generally. However, with the introduction of Panchayati Raj, there are new problems within the district structure. Here the distinction between planning and implementation, between decisions of policy and principle and execution on the spot, is inevitably less sharp, but must still be drawn. For a long time, administrative and technical support for development at the local level must come from above. It is necessary to recognise this in the very interest of Panchayati Raj institutions. This implies a clear definition of responsibilities devolving upon technical and administrative personnel serving Panchayati Raj institutions. Above all, they are servants of the community as a whole, not of individual factions, and must carry on the administration without fear or favour in terms of the general policies laid down by the State Government and the Panchayati Raj bodies. To this extent, it is the responsibility of the higher branches of administration, specially at the State level, to provide the necessary guidance as well as protection.

States are in some ways the more important partner in the effort to raise levels of living, to develop human resources and to achieve the maximum benefits from the new skills and capacities which are being established throughout the country under the Five Year Plans. Their responsibilities have grown and no one will question their very considerable achievements. But the tasks now in hand and immediately ahead are far bigger than is generally realised. The administrative apparatus and methods and the machinery for technical and economic planning in most States must be urgently strengthened if the burdens of development are to be fully sustained. What has to be done is in itself exceedingly difficult, whether we think of agriculture, irrigation, power, social services, employment or, for that matter, of any other aspect of national life. In each case, these tasks call for an enormous amount of integration between different agencies and much greater comprehension of the objectives and, at the same time, there must be scope for far more initiative and drive and better quality in performance. Along with these two conditions, a third condition has to be met, namely, achieving results in the context of a functioning democracy and continuous response to the public. On a broad view it can be said that the essential elements for high levels of achievement already exist. With greater concentration by the Centre and the States alike upon administrative and operational problems, it should be possible so to strengthen the apparatus and methods of Plan implementation and administration as to realise the benefits of development in much greater measure than has been possible so far.

OUR STRATEGY NOT DOCTRINAIRE

T. N. SINGH

OF LATE the growing dependence of under-developed countries, and of India, on foreign financial aid for purposes of industrial development has created a great deal of controversy in the aid-giving countries and a certain amount of misgivings in the countries which receive the assistance. Unfortunately, considerations other than economic have crept into this controversy. When an under-developed country embarks on a sizeable programme of economic development, the need for assistance from advanced countries increases progressively in the first few years despite the growth of its industrial potential. Even as the requirements for imports of capital goods and machinery go up with a widening of the industrial base, the imports of industrial raw materials and spares and parts on maintenance account also mount up progressively. Many under-developed countries, despite their predominantly agricultural economy, had previously no balance of payments difficulties but today they find themselves confronted with serious foreign exchange problems.

It has been noticed that this growing requirement of foreign exchange and assistance which should be indicative of the success of the policy of aid by developed countries, has paradoxically made Aid Club countries more and more critical of the industrialisation programmes of the under-developed nations. If the aid-receiving countries attach importance to certain ideals and socio-economic objectives, they are criticised by certain political groups in the aid-giving countries on doctrinaire grounds based on free enterprise and *laissez faire*. This is rather an unfortunate development. For instance, certain industrialists associated in the aid programme have of late been politely suggesting the abandonment of certain socio-economic policies intended to help planned development and accusing aid-receiving countries of being doctrinaire. Even where mixed economy has been an accepted policy of economic development, public sector proposals are deliberately being discouraged. The necessary regulatory measures which were adopted in the interest of planned development have become a subject of criticism on the ground that they inhibit private enterprise. I fail to understand why persons who are averse to a doctrinaire approach themselves base their criticism of industrial planning in India on doctrinaire grounds in the name of free enterprise and *laissez faire*. I claim that India has successfully shown the way to rapid economic development through democratic planning. When big business and influential persons in India and abroad mount their criticisms at the time of meetings of Aid Club countries, one cannot help feeling that this amounts to an attack on internal economic policies of aid-receiving countries.

Let us visualise what would happen in our country if we were to give up all regulatory measures under the Industrial Development and Regulation Act. Proposals by private enterprise will in all probability have to go through, irrespective of their priority and importance, provided the entrepreneurs are able to find the necessary foreign exchange and internal resources. In such a situation it may happen that a large number of sophisticated consumer goods industries depending on imports of a variety of chemicals, metals and other intermediate goods may flourish for a time as there is a growing internal market. Such industries may also have high profits as the internal prices, if not controlled, are likely to run at comparatively high levels. But in such a system the balance of payments position is likely to become still more difficult. Payments will have to be made for capital goods imported for the consumer goods industries as well as for large imports of intermediate and penultimate industrial raw materials to keep these industries going. Because of the high prices ruling in the internal market there is little prospect of any increase in export of these new goods to pay for the larger imports. Such a situation cannot last for long and the State will sooner or later be compelled to step in with probably more drastic regulatory measures. I am sure no one would suggest our pursuing such a policy in India.

Even with our insistence on exports and a number of exports incentives given to industries which are being set up we find that they are unable to make any headway. In most cases they are competed out of the world market. In other cases, no amount of incentives for exports seem to compensate the manufacturers for internal prices which they get for their goods. Based as most of these sophisticated consumer goods industries are on large imports of intermediate and basic raw materials, their products cannot compete in the world market. Further, as most of these industries have been started in collaboration with foreign concerns who have their far-flung world trade interests, the latter are not interested in developing an export market for Indian products. The balance of payments position is thus likely to become still more difficult. It is, therefore, necessary for an under-developed country to develop the basic and intermediate industries as much as possible provided it has got the necessary natural and other resources for the purpose.

Our experience of twelve years of planning leaves no room for doubt that today there are not enough resources with the private sector to enter the field of basic and intermediate industries like steel, electricals, chemicals, fertilisers, machine-building etc. which require very heavy investments. Consistent with our flexible approach in such matters in the Third Plan we suggested to the private sector to establish a number of fertiliser factories and even steel alloy factories but the performance of the private sector in this regard so far has been disappointing. Out of the five or six licences granted for fertiliser factories, not more than two are expected to materialise. All the licences for the steel alloy industry in the private sector have been surrendered. An under-developed country has therefore, whatever its socio-economic ideology, hardly any choice except to start these basic industries in the public sector.

Referring to the case of the fertiliser industry, *The Economic Times* of Bombay, a paper controlled by big business, writes: "Trying to read the foreign investor's mind is, however, of little use. His final decision depends substantially on factors, economic and other, which are outside India's control. In any case, it is doubtful whether the structure and pattern of this key industry can be left to be settled by what may or may not appeal to collaborators. The emphasis should, therefore, be placed on getting assistance on a basis that leaves the Indian side, whether on the private or the public sector, free to make its own policy decisions." This, I think, represents the views of an important section of the private sector in India regarding foreign collaboration. I need not make any further comments.

One of the criticisms that we have been hearing from economists and other experts in India regarding the new industries that are springing up in all parts of India is the high cost of their products and their inability to compete in the world market. This is a serious position which requires consideration. India has welcomed foreign capital and foreign collaboration in a large number of industrial enterprises. Foreign investors, it appears, are mostly interested in such sophisticated consumer goods industries the products of which will find ready consumption internally. They do not mind starting even uneconomic units if the internal demand cannot justify a larger production. We have generally not been able to secure foreign collaboration for industries which are also export-oriented. There is a growing opinion in the country that we are paying too dearly for foreign collaboration. I do not wish to express an opinion just at this stage for this requires a detailed examination. However, I will content myself by drawing attention to the unhappy fact that our products are unable to compete in the world market. I have also come across criticisms regarding the high cost of capital goods which we are importing today under various aid agreements. Others complain about inefficient management and low productivity in our factories. I think the whole problem of the cost structure of our industries needs looking into. A correct policy in regard to foreign collaboration should emerge after such a study has been completed.

At the same time, hardly can anybody deny the need for rapid development of the machine-building industry and the fullest exploitation of our natural mineral resources. The establishment of the three big steel plants in the public sector, further expansion of these and the two steel plants in the private sector and the growth of our heavy machine-building and engineering industries in the near future should help us in our march towards our goal of a self-reliant economy. But much more has to be done to establish the heavy and medium machine-building industry on a sound base. We require a large number of engineers, technologists, designers with sufficient experience and knowledge. The Planning Commission has been emphasising the need of setting up organisations for consultancy, scientific and technological research, designs and construction organisations, manned by competent personnel. It may be desirable to secure the services of foreign technicians even to strengthen these organisations in the country. I firmly believe that the answer to our problems of foreign exchange and rapid industrial growth lies in the development of such technical personnel and technical organisations at the earliest possible date coupled with the development of the important basic and intermediate industries.

FOREIGN AID FOR INDIA'S DEVELOPMENT

G. L. MEHTA

OVER the duration of the Plans, India has received massive and increasing assistance from foreign countries for its development effort. The motives of donor countries in providing such assistance to India as to other countries are complex : They vary from a genuine if imponderable feeling of humanitarianism to enlightened self-interest and their desire to assist economic development of backward countries to expectations of some kind of political *quid pro quo*. If a wish to make friends and influence people is a "string", then there is some sort of string attached to such aid; indeed, the strings are also evident as when the donor countries, whether communist or non-communist, even go to the length of cutting off aid in case of sharp differences on issues of foreign policy. It would, however, be ungracious for recipient countries to question the sincerity of purpose of countries providing such assistance or doubt its value in buttressing their economies.

As mentioned above, foreign aid has played an increasing role in the financing of the Indian plans. This can be seen from the following Table :

TABLE I

External Financing of India's Plans

In Rupees crore

	First Plan*	Second Plan*	Third Plan**
1. Total Financing	1,960	4,600	7,500
2. External Assistance	188	1,090	2,200
3. Average Per cent (2 : 1)	10	24	29
4. Marginal Per cent	—	34	38

The important thing to note is that a large part of the increase in Plan outlays for the Second and the Third Plans is based on foreign assistance rather than on increase in internal savings.

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*Actual
**Plan

This increased reliance on foreign aid has been made possible by higher authorisation from all sources, as shown below :

TABLE II

Authorisation of Foreign Aid

In Rupees crore

	First Plan	Second Plan	Third Plan	
			First two years	Third year from Consortium
International Institutions ..	57·3	262·7	202·6	116·6
Canada	32·3	73·5	33·4	14·5
France	—	—	28·6	9·5
Germany, Federal Republic of	—	136·0	126·1	47·3
Italy	—	—	25·6	21·4
Japan	—	35·5	42·9	30·9
U.K.	0·4	123·0	126·6	40·0
U.S.A.	213·6	1,527·1	464·1	207·1
U.S.S.R.	64·7	320·2*	—	—
Other Countries	13·5	74·2**	26·4	13·3
TOTAL ..	381·8	2,552·2	1,076·3	500·6***

The utilisation of the assistance is shown in the following Table :

TABLE III

Utilisation of Foreign Aid

In Rupees crore

	First Plan	Second Plan	Third Plan (two years)
Authorised	381·8	2,552·2	1,076·3
Total available	381·8	2,732·3	2,378·9
Utilised	201·7	1,429·7	784·9
Balance	180·1	1,302·6	1,594·0

It may be noted that the average authorisation went up from about Rs. 75 crore per annum during the First Plan to more than Rs. 450 crore for the Second Plan and about Rs. 600 crore for the first two years of the Third Plan.

Of the total authorisation of Rs. 4,010.3 crore till the end of March 1963, Rs. 297.4 crore have been given as grants and

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*Includes Rs. 238·1 crore earmarked for the Third Plan.

**Includes Rs. 42·1 crore earmarked for the Third Plan.

***In addition, Rs. 28·6 crore has been made available outside the Consortium.

Rs. 2,521.9 crore have come in by way of loans, the balance being other forms of assistance. This latter amount has to be repaid—in fact, already the annual servicing cost exceeds Rs. 100 crore. This makes it necessary that the funds be utilised in such a way so as to increase our productive capacity and thereby our ability to repay.

Our record in this respect is not one which can be called unsatisfactory, as shown by the purpose-wise distribution of foreign loans.

TABLE IV

Purpose-wise Authorisation of Foreign Loans/Credits

In Rupees crore

	First Plan	Second Plan	Third Plan (Two years)
Agriculture			
Wheat Loans	90·3	15·7	—
Agricultural Development	3·4	—	26·9
Industry			
Steel and Steel Projects	78·6	211·7	38·6
Orissa Iron Ore Projects	—	12·8	—
Industrial Development.	19·4	755·3	623·5
Power	19·6	62·3	117·3
Transport & Communications			
Railway Development	15·6	195·3	76·4
Ports Development	—	20·5	18·6
Others	—	14·8	56·5
TOTAL . .	226·9	1,288·4	957·8

However, there is hardly any cause for complacency in regard to our foreign exchange position. We have already exhausted our foreign currency reserves (except for the minimum required to support our currency) and are entirely dependent on our exports and foreign aid for meeting the annual foreign exchange requirements of the economy. These requirements themselves have grown over the period. Firstly, as we have put up more factories, our requirements of maintenance imports have gone up, and, even after keeping consumer goods imports to the minimum, our total requirements for maintenance imports exceed Rs. 700 crore per year at which level they have been fixed for the Third Plan period; this is much higher than our rate of imports at the time planning began; and, if imports (even of only essential goods) were to be freely allowed, would be still higher. Secondly, as the plans become larger in magnitude and are oriented towards industry, their import content grows more than proportionately; this is obvious from the figures of the marginal rate given in Table I. At present, our requirements on capital goods account must be at the rate of Rs. 500 crore per year.

As against these requirements—which, in future, will increase rather than decrease in absolute amounts—our exports have remained rigidly immovable—despite incentives, compulsion and cajoling—at about Rs. 650 crore for the last several years. So far the gap has been filled by the generous assistance provided by other countries.

Foreign aid and the philosophy underlying it have undergone noticeable changes over the last few years. Of these, two are of relevance to us. (*a*) The terms on which foreign aid is given under the impact of the realisation of the very enormity of the problem facing under-developed countries have become increasingly soft, although the recent decision of the U.S. House of Representatives to impose an interest charge of 2 per cent should cause concern. It is now becoming an acceptable practice to provide loans for periods from 30 to 50 years and not to charge interest but to levy a service charge up to 1 per cent per annum : these are the terms on which the U.S. Agency for International Development, as also the International Development Association, an affiliate of the World Bank, provide funds. We must not also overlook the force of example : under pressure, other countries have also been made to soften the terms of their loans. (*b*) Secondly, an increasing part of foreign aid is not being tied to projects though a larger part of it is being tied to purchases within the aid-giving countries.

Both these developments are of particular significance to India. As India's foreign exchange commitments have grown, her repayment liabilities (both capital and interest account) have grown, and, as mentioned above, already exceed Rs. 100 crore a year. Thus about 15 per cent of our exports and 20 per cent of the foreign aid we are at present getting is almost neutralised as a result of our past commitments. The significance of the revised terms is that they at once reduce the total amount payable on the loans because of lower interest payments and the amount payable each year as a result of the longer period of amortisation. Moreover, India is at present faced with the problem of operating at full capacity the industries it has set up; non-project aid would prove helpful in enabling us to bring in the required maintenance imports.

However friendly and generous foreign countries are, it behoves us to maintain our house in order and minimise the call that we make on their generosity; this is a matter not only of propriety but of self-interest.

The reasons for this are not far to seek. Firstly, as Table II shows, foreign aid to India has stabilised at an annual figure of about Rs. 600 crore; as the negotiations this year showed, it would be imprudent to expect much more. If, as is only likely, our plans are going to be bigger in future, and, our need of foreign exchange larger, we would have to provide for the additional foreign exchange on our own—that is, from increased export effort. This is a challenge we cannot avoid or postpone.

Moreover, even at present, a part of the foreign exchange assistance is not tied to projects—in other words, it is being used to meet current maintenance import needs. It, therefore, hardly adds to our future productive capacity. This is a situation which we can hardly afford to accept without jeopardising our future balance of payments position.

If we accept the goal of providing by our own effort the foreign exchange required for all our maintenance imports as well as the imports required for importing capital goods above the present level, a third objective is no less important, namely, to build up our foreign currency reserves. During the last five years, we have been leading a hand-to-mouth existence in respect of foreign exchange account, reducing considerably the flexibility in making imports at opportune time or from the most economical sources. In such a situation, every project, whatever its importance to the economy, involving import of goods, becomes the subject of approval by aid-giving countries before we can undertake it.

We have become dependent—in fact, too heavily dependent—on foreign aid, and, in the process, have lost to a considerable extent the initiative in planning and the freedom in using the funds. Foreign aid can only be a temporary prop to the economy, not a permanent basis for long-term planning. We have to realise that foreign aid is no substitute for self-help.

follow a certain logical pattern. The plan at the individual level and consequently on the national scale is bound to fail if one or two vital steps are missed.

1. An intellectual awareness that a large family is incompatible with a desire for or an expectation of a higher level of consumption or a higher standard of living, other things remaining the same.

This awareness can be brought to the masses only through propaganda—education—through the platform (speeches) and film and radio, for illiterates, and, in addition to these, through the press (newspaper articles, pamphlets and books) for literates.

2. Awareness of the means of family limitation.

The man or woman, and preferably both, must know that it is possible to control conception. They must know that means are available to space and limit children. This means again knowledge. Of course, there may be some who, despite propaganda, remain so entrenched in ignorance that they will continue to believe that God sends children and nothing can be done about them.

3. Acceptability of the known means.

The available means range all the way from abstinence and moral restraint within marriage, the safe period (which is really unsafe), sheath, diaphragm and jelly, foam tablets and oral contraceptives to permanent methods of surgical sterilisation like vasectomy and salpingectomy. The husband or wife must have a good knowledge of these methods and must find at least one method acceptable to both.

4. Availability of the means.

There may be both knowledge and acceptability, but the means may not be available. A clinic, a physician, a prescription and the material—all these must be available. This means that a clinic must be within the reach of every community. The financial and other difficulties involved in organising a clinic in every village or even a group of villages become obvious. The clinic must be staffed by a knowledgeable and sympathetic physician. The clinic must be able to give free contraceptives.

5. The need for strong motivation to practise family planning.

The husband or wife may travel as far as the fourth stage, receive the necessary advice and/or contraceptives, go home and forget all about it.

At this level a variety of barriers—material and psychological

—crop up. The home may be crowded and the necessary privacy may be lacking. There may be no bathrooms, running water or light. The mother-in-law, if she knows about the matter, may be an obstacle. And family planning in actual practice implies a certain amount of rational planning in a couple's conjugal relations. It is at the time of coitus that motivation in favour of family planning must reign supreme but in actual practice it is the time when it is least strong.

6. And last is the effectiveness of the contraceptive used.

If a couple has come as far as the fifth stage and actually practised family planning they deserve all credit. But there is one more barrier which can render the postponement or prevention of a pregnancy impossible. This is the effectiveness of the particular method of family planning or the particular contraceptive used. An ideal contraceptive must be completely effective, cheap, harmless, easy to use and, acceptable from the aesthetic point of view. Some of these factors depend on an individual's attitudes and tastes. Many wives consider contraceptives messy and bothersome and some husbands regard contraceptives as something that robs the sex act of its spontaneity. Further, some couples who already have two or three children desire a permanent method of conception control. To such husbands and wives one may recommend vasectomy and salpingectomy as the case may be. The choice of the method depends on how effective it can be in preventing a pregnancy to a particular wife.

In a word, success will be attained only if all the steps outlined above are attended to by every family planning clinic or organisation. Otherwise the movement is bound to fail.

THE ART AND SCIENCE OF TARGETRY

JAGDISH BHAGWATI

A GREAT DEAL of cynicism characterises the typical public reaction to the non-fulfilment of targets. This was captured in a brilliant cartoon by R. K. Laxman recently, where an instructor at a rifle range is sternly admonished by his superior for saying to an inept Jawan : "Where do you think you are : at the Planning Commission ?" This cynicism, while partly inevitable, arises from confusion concerning certain aspects of targetry. In the brief essay here, I wish to discuss some sources of this confusion, while also taking the opportunity to pinpoint some of the important respects in which the practice of target-setting and implementation may be improved.

Targets can and do refer to several things. Investment and output in different sectors, aggregate income, personal disposable income, taxation, export level, imports of steel, indeed a large number of items can be the object of target-setting. But targets are to be distinguished from pure "estimates". This distinction is of some importance and can be illustrated in terms of the figures of investment and output in different sectors that every Plan document contains. These figures represent a generous mixture of both "targets" and "estimates". For instance, a good part of the private sector investment and output figures do *not* amount to anything but an estimate by the authorities of what may be expected in these areas (within the framework of certain general policies). Thus, some agricultural investment (e.g. bunding), small-scale industry and services outputs are typical examples of such estimates. These contrast with the rest of the private sector and all of the public sector investments and outputs which constitute targets in the strict sense. The expansion of steel capacity, for instance, by so many million tons is a definite target, which the government *aims* to achieve by explicit action.

A further point needs to be noted concerning these targets. Many of these targets are *not* firm in detail. Take, for instance, the example of private sector investment target in the Organised

Industry sector. A careful reader of the Plans will find that not all of this target is broken down into firm targets of investments in individual industries: a fraction, varying from 15 to 25 per cent, is "free" and its composition is *ad hoc,* determined in this instance by the licensing committee of the Ministry of Commerce and Industry. The general impression of the economy being entirely or overwhelmingly subjected to targetry, in the only valid sense of the term, is therefore incorrect.

By the same token, therefore, it may be more correct to criticise the planners for making wrong "estimates" rather than for setting but not implementing targets; however, it would be worthwhile to bear in mind that the miscalculation of an estimate may itself lead to the non-fulfilment of a target. Thus, for instance, the overestimating of private agricultural investment could seriously affect the agricultural output, thereby affecting at least two important targets : increased availability of food grains and rise in the level of national income.

That leads me to the next question : is there any way in which we can say that some targets are "more important" than others ? Can we, for example, afford to ignore the non-fulfilment of some and not of others ? Clearly, targets embodying national *objectives* are of crucial importance. Among these can be counted : national income, level of employment, consumption and the distribution of income, if the 3-anna controversy and the belated awareness of the appalling poverty of the lowest decile of income-earning households is any guide. With these must also be reckoned the objectives of raising the level of savings, improving the export performance and ensuring a steady investment in the capital goods industries all of which buttress the grand, forward-looking targets of an increased rate of investment and growth (and therewith employment creation and elimination of general poverty) in the stipulated 25-year perspective spanned by the entire planning process. It need hardly be emphasised that all other targets, such as detailed industrial targets of investment, are only subsidiary to and instrumental in the fulfilment of these objective-targets. This also means that it is of little significance whether the stipulated target of aluminium falls short by some tons but of steel exceeds by others. These shortfalls and leads are of negligible importance whether they occur within broad sectors like industry and services or between them, except in so far as they impinge upon the objective-targets. The analyst of the unfolding situation, therefore, has to examine whether this is so, before throwing up his hands at non-fulfilment of the *detailed* targets.

This analysis prompts two further observations of some interest. (1) Do we *need* to fulfil rigidly as many targets as we currently work with for there to be efficient planning?

Detailed targets require balancing of inputs and outputs which demand expertise, information and simultaneous solution which are nearly impossible to obtain. The targets are inevitably "shallow" when formulated. Surely, they need revision as information trickles in, as experience reveals "optimism" or miscalculation and underlines the foolishness of assuming perfect foresight. Targets, therefore, must inevitably adjust themselves and cannot always be implemented or require to be. This "flexibility" in the face of imperfect foresight is the *essence* of good planning and it is wrong to judge non-fulfilment of pre-set targets as necessarily a failure.

(2) This, however, raises the further question as to whether the government *has an appropriate machinery* for dealing with this element of uncertainty.

For instance, if aid inflow in the Plan period turns out to be lower than estimated, does the Planning Commission have an *alternative* (reduced) programme to which it can switch? Or, say, agricultural output rises by less than the target: would the Planning Commission know how best to adjust to this? The Third Plan document indicates an ambivalence towards this type of preparedness. The detailed targets were apparently worked out for a higher agricultural output target (and a 6 per cent rate of growth on the average). However, a more pessimistic outlook on agriculture (and hence a 5 per cent growth rate) appears to have led the planners to present a *single* "5 to 6 per cent" Plan, instead of resorting to a clear formulation of what would be done under different alternatives. This is clearly an area where improved planning is required.

I would like to end by making a brief reference to another respect in which the Planning Commission can extend its target exercises. In the last few years, two valuable lessons have been learnt (though not always effectively implemented): the value of a *perspective* plan and the importance of a *phased* Five Year Plan are no longer in dispute. While this time dimension to target-setting and implementation has been understood, the *space-dimension* has been missing so far. Let me illustrate this again with industrial targets. Almost always, the targets exist on a "national" level. The regional distribution of investment and output targets do not exist. Leaving the allocation of individual targets to different entrepreneurs and/or regions by licensing throughout the Plan period to the executive Ministry of Commerce and Industry leads to a series of sequential decisions where each State competes for allocation, resulting in the break-up of most targets between States with inevitably small, uneconomic plants and little regard for over-all economy. Cannot the Planning Commission begin to address itself to the space aspect of targetry, so that such irrationality is avoided ?

Agriculture & Rural Development

EFFECTIVE IMPLEMENTATION OF AGRICULTURAL PROGRAMMES

SHRIMAN NARAYAN

AGRICULTURAL production has been given the highest priority in the Third Five Year Plan. This is essential not only for achieving self-sufficiency in food grains but also for ensuring the supply of essential raw materials to several important industries like cotton textiles, jute, sugar and oil. Our traditional exports of agricultural commodities still constitute a major portion of our foreign exchange earnings and every nerve has to be strained for stepping up the production of food and commercial crops both for internal requirements as well as for improving our balance of payments position.

In fact, our programmes of agricultural production are closely interrelated to industrial development and, as Dr. Kuznets points out, "a marked rise in productivity per worker in agriculture is a pre-condition of the industrial revolution for any sizable region in the world."[1] Dr. W. W. Rostow, Counsellor and Chairman, United States Policy Planning Council, also significantly observes that "radical improvement of agriculture in Asia, Africa and Latin America is a fundamental condition for the maintenance of a high rate of development in those regions, specially their industrial development."[2]

During the last few months, special efforts have been made to make the implementation of various agricultural programmes in the States much more effective and streamlined. Central Agricultural Teams, consisting of representatives of the Ministries of Food and Agriculture, Community Development and Co-operation, and the Planning Commission, visited all the States to gain first-hand knowledge regarding practical problems and difficulties

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1. *Lectures on Economic Growth*, by Prof. Simon Kuznets.
2. Source : *Foreign Agriculture*.

with which the farmers were faced in different areas. These Central Teams spent two days in touring different C. D. Blocks in a district with a view to finding out how different agricultural schemes were actually functioning on the ground. Later, they spent three days in detailed discussions with the State Governments in order to take specific decisions for pulling agriculture "out of the ruts". The Teams were headed by the Ministers concerned and several Members of the Planning Commission. The visits of these Teams have, indeed, proved to be very helpful in focussing the attention of the State Governments on administrative and organisational shortcomings, and, if the States so desire, such joint visits could become an annual feature for giving a concerted 'push' to agricultural development.

One of the positive results of the visits of these Central Teams this year was the setting up of special Agricultural Production Sub-Committees of the State Cabinets under the chairmanship of the Chief Ministers. All the concerned Ministers, including the Finance Minister, would now meet periodically to co-ordinate the activities of the departments of Agriculture, Animal Husbandry, Irrigation, Community Development and Co-operation. Another co-ordination committee would function at the official level under the chairmanship of the Chief Secretary. It has also been agreed that the decisions taken by the Cabinet Sub-Committee on agricultural production would be regarded as the decisions of the whole Cabinet and there would be no need to refer these matters to the concerned departments again. This step would be very helpful in streamlining the administrative machinery in the States in the sphere of agricultural production.

As a result of the recommendations of these Central Teams it has also been decided to increase the financial outlays for minor irrigation, soil conservation and plant protection measures during the remaining period of the Third Plan. An additional amount of Rs. 85 crore would be provided for agricultural programmes in different States, out of which about Rs. 16 crore are being allotted during the current year. It may be noted that during the first three years of the Third Plan, the State Governments have spent only 49.5 per cent of the total outlay on agriculture, as against 52 per cent of the expenditure for the Plan as a whole. The States have also been informed that, in future, they should not divert any funds from agricultural programmes to other sectors. If they do so, the Central assistance would be reduced proportionately.

In regard to the availability of foreign exchange for certain key materials such as fertilisers, pesticides and plant protection equipment, equipment for dairying and fisheries and boring and drilling machines for minor irrigation, it was found that several important agricultural programmes had suffered considerably. This matter was recently considered at a joint meeting of the Planning Commission and the Ministries of Food and Agriculture and Finance and it was agreed that the requirements of foreign exchange for fertilisers, small tractors, power tillers, pesticides, power sprayers and dusters, equipment for boring and drilling, dairying and fisheries should be met adequately during the remaining period of the Third Plan. It is envisaged that during the last two years of the Third Plan, Rs. 35 crore and Rs. 40 crore would be made available for the import of fertilisers as against the present level of about Rs. 25 crore annually. Of course, programme for the fullest utilisation of local organic manures, which do not involve any foreign exchange, will have to be organised with a keen sense of urgency.

The Central Teams drew pointed attention to the non-availability of cement and iron sheets for agricultural programmes, more specially minor irrigation. This matter was discussed with the Ministries of Food and Agriculture and Steel and Heavy Industries and it has now been decided that requirements of agricultural production for cement and steel would be given the highest priority next only to Defence. The States have been asked to earmark specific percentages of cement for agricultural purposes out of the total quotas allotted to them so that the execution of the minor irrigation schemes and the construction of rural godowns may not suffer in any way.

The problem of supplying adequate short-term and medium-term credit to the farmers through the co-operative and governmental agencies was also studied by the Central Teams. It has now been suggested to the States that the agricultural and co-operative programmes should be integrated through village and block production plans and adequate loans should be given for meeting all the requirements of fertilisers, seeds, improved implements and pesticides. As far as possible, loans in respect of agricultural supplies should be advanced in kind in order to avoid any misuse of funds for non-agricultural purposes. It must be conceded, however, that special efforts will have to be made for augmenting the short-term and the medium-term co-operative loans during the remaining period of the Third Plan in order to reach the target of Rs. 530 crore.

As against this target, it is estimated that the total amount of loans distributed by co-operative societies during 1962-63 would be of the order of only Rs. 280 crore. During 1963-64, this figure is expected to reach the level of Rs. 300 crore. Thus, there is still a big gap which will have to be filled up during the remaining two years. The Planning Commission proposes to convene a special meeting for this purpose in order to explore all possible methods for increasing the flow of institutional funds to programmes of agricultural development.

During the visits of the Teams it was noticed that at the State, district and block levels there was an urgent need for dovetailing the activities of the agricultural, Community Development and Panchayati Raj agencies. The National Development Council has already decided that 100 per cent of the time and energy of the Gram Sevaks should now be concentrated on agricultural and allied programmes like animal husbandry and co-operation. But this could be possible only if administration at various levels is effectively geared to these tasks through the preparation of detailed job charts for different functionaries. The recent joint conference of Agriculture and Community Development Ministers has set up a Working Group to sort out the details of a streamlined and integrated administration and it is expected that recommendations of this Group would go a long way in bringing about a unified administrative machinery for assisting millions of our farmers efficiently and *in time*.

Steps are also being taken to enlist the co-operation of a large number of progressive farmers in various programmes of agricultural development. It is significant that while the yields per acre in India for some of the major crops are the lowest in the world, the rate of productivity achieved by progressive farmers in our country is also among the highest. It is, therefore, essential that the experience of these better farmers in different States is availed of by the Governments. It has been decided to establish advisory committees of good farmers at the State and district levels for involving these experienced peasants more actively and directly into development schemes.

It is essential that the farmer must get a minimum remunerative price for his produce. The Government of India and the Planning Commission have already announced minimum purchase prices for wheat, sugarcane, jute, cotton and jowar. Further steps will have to be taken to make a realistic and scientific assessment of the actual costs of production for the major crops in different regions. Buffer stock operations for all these commodities will have to be made a permanent feature of our farm policy in order to ensure fair prices both for the producers as well as the consumers.

The Planning Commission, in consultation with the agencies concerned, is also trying to evolve a suitable system of collecting statistics for agricultural production at the block level from year to year. At present, such statistics are available only at the district level, and it is, therefore, difficult to fix any specific responsibility on the block staff for achieving farm targets. Pilot projects for the collection of block level agricultural statistics have already been started in one district in each State and it is expected that one more district in different States will be selected soon for extending this experiment. Once it is possible to check up statistics of actual production of major crops from year to year in each block, the C.D. authorities will be in a position to take effective action against those officers who fail to discharge their responsibilities adequately.

If the nation is really serious about augmenting agricultural and industrial production, our educational system at the primary, secondary and university levels will have to undergo a radical change. It must become farm-and-craft-oriented in the rural areas and small-industry-oriented in the cities. Mahatma Gandhi had placed before us a Basic system of education about twenty-five years ago. That system has not been able to make much headway because we perhaps never gave it a fair trial. Be that as it may, it is now imperative to make our schools and colleges more purposeful and creative by enabling the students to participate in productive activities in a scientific and organised manner so that they could learn through doing and also earn while learning. At the instance of the Planning Commission, the Central Advisory Board of Education has appointed a special committee to formulate a concrete scheme in this regard and it is hoped that the recommendations of the committee would pave the way for a much more fruitful system of educational instruction and training in India.

Above all, it is the *human* factor which must always be kept in view. We may arrange for all the material supplies of water, seeds, fertilisers and implements to the farmer through a chain of efficient co-operatives and Panchayats. But we cannot make him feel the glow of enthusiasm unless the land that he tills really belongs to him and there is no sense of uncertainty in his mind. We must concede that the progress of land reforms in the States has not been satisfactory so far. Special attention must be devoted to this aspect of rural life without any further loss of time.

It is evident that Indian agriculture would continue to depend in a substantial measure on the vagaries of the monsoon from year to year. Recent studies have indicated that at no time in future would it be possible for us to irrigate more than 50 per cent of the *cultivable* land in India. Nevertheless, every human effort has to be made on an emergency basis to enable our farmers to raise their level of production by overcoming the uncertainties of nature to the maximum extent. Despite best efforts, it may not be possible to show steady increases in agricultural productivity year after year owing to climatic conditions beyond our control. It should however, be our earnest endeavour to show a rising curve over the Plan periods of five years each.

While we cannot afford to be complacent in regard to the achievement of agricultural targets set out in the Third Plan, there must be no undue pessimism or slackening of efforts in despair. It is no use trying to shirk our responsibilities and pass them on to others. This is not the time for mutual recrimination; the Central Ministries concerned, the Planning Commission and the State Governments must make a concerted drive to assist millions of our farmers to increase their yields per acre. I am convinced that the level of agricultural production in India cannot be raised by miracles or magical formulas. The real remedy lies in a more effective execution of all the programmes which have already been included in the Third Plan. Agriculture is a hard taskmaster; it would require every ounce of our energy to pursue various schemes at the Central, State, district, block and village levels in a planned and co-ordinated fashion from day to day, week to week and month to month. There can be no resting on our oars till the basic objectives are achieved in a satisfactory manner.

PROGRESS THAT ELUDES AGRICULTURE

M. L. DANTWALA

THE Third Five Year Plan has by now traversed half of its time-span and it is appropriate to pause and see whether it has covered half the distance towards its achievement targets. A quick retrospect immediately reveals that the sector in which the performance has been most disheartening is agriculture. Food grains production is receding downwards during the first two years of the Third Five Year Plan, with the consequence that the wholesale price index of food articles has registered a sharp increase from 120 in 1960-61 to 137.5 in August 1963. Nor is there any significant increase in the production of several other agricultural commodities like cotton and oilseeds.

In our country, since agricultural production depends so heavily on the weather, it is not unusual to have a series of bad harvests consecutively. It is, therefore, quite likely that production during the last two years was severely affected by adverse weather. In view of this, it is the usual practice to measure the progress in agricultural production by a reference to what is called the additional "production potential" rather than the actually realised. The production potential is measured on the basis of physical achievements in regard to different programmes of agricultural improvement like irrigation, fertilisers, seeds, etc. and a yard-stick formula for conversion into production figures. Though the method adopted for the purpose is far from satisfactory, we shall, in this article, ignore this aspect and try to see whether the progress as judged by the production potential generated is satisfactory.

It will be remembered that the Third Five Year Plan had envisaged a target of additional food grains production potential of 23.7 million tons. As against this, from such information as is available, the production potential generated during the first two years of the Plan would be of the order of 5-6 million tons. If the higher of the two figures is used, for deriving a yearly average, the additional potential at the end of the Third Five Year Plan will be only 15 million tons—almost 33 per cent below the target. We can, of course, hope that in the remaining period of the Plan, progress will be accelerated.

As already mentioned, the aggregates given above represent the total of the contribution of different items in the programme of increasing agricultural production. We may, therefore, try to look into the progress in some of the key items like extension of irrigation, increased use of fertilisers and improved seeds. It should be noted that the basis on which the appraisal is made is again far from satisfactory. Though there is considerable scope for improvement in the method and the machinery for the collection and compilation of the basic data necessary for the purpose, it should be conceded that in the nature of things, some of the information is extremely difficult to obtain and more so, to obtain it with a reasonable assurance about its accuracy.

The Third Five Year Plan document had envisaged a target of covering 12.8 million acres with minor irrigation. This was subsequently raised by 50 per cent—to 19.2 million acres. According to some current estimates, during the first two years of the Plan, the area benefited by minor irrigation is likely to be about 4 million acres, i.e. 30 per cent of the original Plan target and a little more than 20 per cent of the revised one. Financial allocation to minor irrigation has been stepped up, but even so, it would be unrealistic to hope that the revised target under minor irrigation will be reached by the end of the Third Five Year Plan.

The shortfall in the anticipated domestic production of nitrogenous fertilisers has already attracted much attention. It is now estimated that the supply from domestic production and imports in 1964-65 (fourth year of the Plan) will be 2.75 million tons as against the anticipated 5 million. The supply anticipated in the last year of the Plan was 10 million tons, 8 million from domestic production and 2 million from imports. Even if imports are stepped up, the total availability is not likely to be more than 6-7 million tons, resulting in 30-40 per cent shortfall. Obstacles in putting up a fertiliser plant in the private or the public sector are by now well known and much is written on it. The difficulty of securing foreign collaboration, particularly in view of the control of sale prices of fertilisers and prospects of poor return on investment, is probably the major obstacle. But no such insuperable obstacles can be cited for the equally disappointing progress in the production and utilisation of rural composts or green manure. Over the first two years of the Third Plan, additional production of rural composts is estimated at 20 million tons which gives an average of 10 million tons per year as against the Plan anticipation of 30 million tons. As for green manure, the area was perhaps no more than 16-17 million acres in 1962-63 as against the target of 22.7 million acres.

The performance in regard to coverage under improved seeds is no better. Precise estimates are not available, but in the first two years of the Plan, the additional acreage covered is probably not more than one-fifth of the Third Five Year Plan target of 180 million acres. The shortfall is thus of the magnitude of 50 per cent. The same story of shortfall in achievement can be told about other programmes formulated in the Plan for achieving the desired increase in agricultural production.

It is not difficult to list the factors responsible for this unsatisfactory progress in the agricultural sector. In fact, by now, the Planning Commission has acquired the requisite expertise in such listing. Being conversant with the practice of self-criticism, it has faithfully included in the list every conceivable factor that could possibly have had an adverse effect on the progress of the Plan. But, strange though it may seem, the very pervasiveness of the list robs it of its analytical, and more importantly, operational value. The multiplicity of the listed factors blurs the priority perspective and operational direction. A proof of this is provided by the fact that year after year, the same list is courageously put forth—low priority, administrative and organisational bottlenecks, diffused and divided responsibility, clogged lines of communication, rivalries pertaining to the jurisdiction between different agencies, the ubiquitous lack of co-ordination and if anyone has any more to suggest, the Planning Commission, I am sure, would be glad to incorporate them in the lengthening list. There is now no point in saying that the major problem in planning is that of effective implementation, because this is now universally accepted. Further, we all, and more than any one else, the Planning Commission, know what is wrong with implementation and even know the remedies—allocation of *top* priority, larger financial allocations, more liberal foreign exchange, decentralisation, co-ordination and the rest of it. The problem is that the Planning Commission and the Government have, it would appear, been completely helpless in correcting what they know to be the wrong. The ministers concerned, it must be conceded, however, have not yet run out of fresh ideas. In fact, they have one for each new season. The Community Development Project has matured into the Panchayati Raj and the National Extension Service into the Intensive Area Development Project. The BDO and the VLW will now have the Village Volunteer Force and the Labour Bank to contend with.

Coming back to the point, what is wrong with our agriculture ? Some years back, one had a few answers, but now that the Planning Commission has known all of them, one cannot invent new ones every time *Yojana* or any other knowledge-thirsty journals want to bring out a Special Supplement. There is a limit—the author is beginning to discover—to the verbal ingenuity of even a prolix professor. Time is not far, when the only people who would be able to talk and write on planning would be politicians. One is, however, not sure when the time to do *i.e. give* top priority to selected programmes (not to different ones on different pages of Plan document), *remove* administrative and organisational bottlenecks, *establish* clear lines of command, *bring* about co-ordination between competing agencies for rural development, etc. etc.—is likely to arrive!

RELATIONS BETWEEN PUBLIC AND PRIVATE SECTORS

BHARAT RAM

DEVELOPMENT is conditioned and can be accelerated by rational division of activities between people and Government. However, such division is not a universal imperative, and even in regard to the same country, a division or diffusion which may be deemed to be good at any one time may prove to be an obstacle at some other time. It is true that there are many fields of investment in which private investment may not come in freely, although these may be instrumental in promoting rapid economic progress. Apart from spheres like education and public health, individual enterprise may not be willing to implement projects which do not ensure a reasonable return, or may not be able to undertake programmes which entail large financial commitment.

This mutual sharing of efforts has also to be based on considerations of expediency, as the actual working of policy in our country in the last decade has adequately demonstrated. We started off with the Industrial Policy Resolution which set out a given division of activities between the two sectors of the economy, as also a common field. Experience has shown that there has essentially to be close association between the two sectors at different points, and unless a higher degree of harmony is achieved, the slow rate of growth of one sector will itself depress the potential growth of the other, and therefore of the economy as a whole.

The Third Plan had indicated that the growth of the economy has progressively to take the form of a co-operative endeavour. This aspect was once again emphasised at the Seminar on Problems of Public and Private Sector Industrial Undertakings organised by the Federation of Indian Chambers of Commerce and Industry in August this year. The Seminar revealed the identity of interests and the similarity of attitudes and purpose. There were many problems in common to which almost the same solutions were applicable. In view of the close relationship between the two sectors, a consistent approach has to be evolved to promote the maximum growth of the economy as a whole.

Co-operation between public and private sectors has two aspects arising from economic interdependence at different stages. These relate mainly to finance and economic co-ordination. At each stage greater co-operation is possible and would ensure a faster growth of the economy.

Both the public and private sectors have to secure finance for development from a common pool. It is true that in a growing economy the size of resources is not constant; rather, it increases faster than the rate of development. But the manner in which the public sector obtains finance from the people can be a factor which influences the attitude and the behaviour of people towards working, earning or saving. The financing of the first two Plans, however, does not give any sure indication that the public sector has adopted the best means to divert resources from people to Government. The Plans have depended overwhelmingly on taxation which, because of its compulsive nature and its adverse influence on the ability and willingness to save, has depleted internal resources and depressed the rate of growth of the economy.

The First Plan was financed to the extent of about 13 per cent from additional taxation. In the Second Plan, additional taxation was about 23 per cent of outlay in the public sector. It was estimated that the Third Plan will involve additional taxation of the order of Rs. 1,710 crore at the Centre and the States together, over the period of five years. With a balance from current revenues aggregating Rs. 550 crore, these were expected to finance more than 30 per cent of the programmes of investment in the public sector. However, the level of taxation implied in the first three Budgets of the Third Plan will yield over the five years a revenue exceeding Rs. 2,250 crore. Thus, the yield from additional taxation will go beyond the Plan targets by over Rs. 540 crore according to the estimates of the Planning Commission itself. The additional tax effort has thus been too heavy, particularly in the context of the smaller rate of growth of the economy than the Plan had visualised.

It would then appear that the private sector will be left with resources smaller to the extent that the public sector has drawn resources from people in excess of the Plan estimates. Already there was an anticipated gap of Rs. 100 crore between investment and resources in private organised sector. The additional diversion of money from people to Government will widen this gap further. Even before the last Budget proposals became operative, this shortage of rupee resources had begun to be felt. The capital market has been in a depressed condition for a long time. Share prices have declined in the last year by over 16 per cent. There is investor resistance to new flotations which, in most cases, have not been fully subscribed and have been substantially held by underwriters. These are indications that the diversion of resources from people to Government has exceeded useful limits.

The second major field of co-operation between public and private sectors relates to the technical co-ordination between different industries. Production of engineering industries, for example, is regulated by the output of iron and steel, or the growth of construction by the output of cement. This technical co-ordination becomes an essential condition for rapid industrial growth. In the first two years of the Third Plan, however, technical co-ordination was not complete and industrial production remained depressed. Industrial output increased at an annual average rate of only about 8 per cent as compared to more than 10 per cent in earlier years. Particularly in cement, machinery and cotton textiles, the increase in production was too small to meet the needs of the economy and the people.

The production of agriculture-based industries like textiles did not increase because of the smaller agricultural yield. The production of engineering industries was limited by the availability of basic and other components which are largely imported. However, all these industries depend overwhelmingly on iron and steel, coal, transport and power. The shortfall in these commodities and services, which became acute in 1961-62 and was only partly relieved in 1962-63, was responsible, in a large measure, in restraining the growth of engineering and other industries. In other words, the slow growth of industrial production in the first two years of the Third Plan has been mainly due to the technical imbalance between industries in the public and private sectors. The shortage of coal, the inadequacy of transport facilities, the non-availability of electricity and the stringency of foreign exchange occasioned mainly by slow implementation of projects were the principal factors which withheld the growth of industrial production. Most of these shortages have continued, although with diminished intensity, even into the third year of the Third Plan.

In many industries the implementation of programmes in the Third Plan has been so much behind schedule that, without vigorous efforts in the remaining years, it will not be possible to recoup the loss in time already incurred. Some of these projects have been delayed because of factors beyond the control of industry and Government. The Bokaro steel plant and the nuclear power station at Tarapore have been delayed because of "indecision" on the part of U.S. Government. But the additional time involved in the construction of numerous power stations, heavy machine building plants and allied projects, the Barauni Oil Refinery etc. in the public sector has been principally due to slow-moving administrative machinery of our own Government. The expansion of three public sector steel plants and the construction of special alloy steel plant at Durgapur are not likely to be completed according to schedule. The State-owned projects show even smaller progress.

The slowness of administration has its impress on the development of private industry. The whole procedure for securing consent of Government to investment and foreign collaboration, or sanction of credit from official sources, is lengthy and time-consuming. In many cases the delay involved in the completion of formalities before investment could be undertaken has exceeded three years. Such a long lapse of time creates additional uncertainty and hesitancy in the minds of foreign investors who have competitive opportunities in other countries.

The admitted slow rate of progress in the Third Plan is thus a reflection of the imbalance between economic objectives and policies, and between a slow-moving administration and changing conditions. The public and private sectors are not developing in a co-ordinated fashion, mainly because the type of administration is unsuited to the size of public sector. A situation has emerged in which the growth of private industry is limited by the slow progress of public enterprise in fields like power, transport, steel etc., and by policies in respect of finance and taxation. If the forces of growth are once again to be enlivened, there has to be a reorientation of the administrative framework to expedite the implementation of Plan projects, and substantive reforms of fiscal and monetary policies.

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THE IMPORTANCE OF PRODUCTIVITY

H. V. R. IENGAR

WHEN I was in the United Kingdom recently, I called on the British Productivity Council and asked them why it was necessary for the U.K. to have a productivity movement at all. That country has been in the forefront of the industrial revolution and been trading internationally in manufactured goods longer than any other country, and it seemed, *prima facie,* difficult to understand why a productivity movement should be specially organised. The answer was that the U.K. was living in a highly competitive world, that other countries had caught up with them in technology, and that, if they were to maintain their standard of living, it was absolutely essential that they should reduce costs and improve quality and, for this purpose, to make use of every productivity technique that was available.

The compulsions in India are different. We are operating in what is virtually a closed economy in the sense that, because of a grave shortage of foreign exchange, our imports are rigidly controlled. Moreover, in view of the shortage of domestic resources such as capital, transport, electric power etc., there is also close control over industrial licensing and, consequently, the market is not subjected to the normal forces of competition except to a very limited extent. The result of all this is that the manufacturer is able to sell virtually anything that he produces, irrespective of price and quality.

This situation is causing two distortions : the increase in domestic prices, combined with inadequate appreciation of quality, operates with severity on the domestic consumer; and the disparity between domestic and international prices prevents us from earning vital exchange.

It is against the above background that the productivity movement in India has to be judged. The National Productivity Council was set up in February 1958, with the result that it has now had a life of some five and a half years. It owed its origin principally to the initiative of American authorities, and has continued to get the advantage of substantial assistance from the U.S. Government. It has recently also attracted the attention of the Governments of France and Germany, and it may be said, therefore, that there is a somewhat international character in the matter of the assistance that the National Productivity Council is getting. In the domestic sphere the structure of the Council ensures that it enjoys the support of management, of organised labour, as well as of Government. One-third of the Governing Council consists of representatives of each of these groups and they have throughout worked in a spirit of understanding and co-operation.

It is, of course, easily possible in this article to give statistics about the activities of the National Productivity Council, the number of Local Productivity Councils, the number and variety of training courses, the number of persons sent abroad for specialised courses, the work of study teams and the like. The figures will be found in the annual reports of the National Productivity Council. Beyond all the statistics contained in the reports lies the main question as to whether the necessary impact has been made on the *minds* of management and labour. For it is only when these are seized of the importance of making use of productivity techniques and are mentally prepared to adjust their approach to problems that progress is really possible.

The approach to the problem was well stated in the *Third Five Year Plan* in the following words :

> "Neither the exercise of their organised strength in industrial conflicts, nor laws and the intervention of the State can help the workers much in realising their aspirations. Their gains can arise only out of the strength and dynamism of the economy, the only enduring basis of which is a rising level of productivity. No increase in profits which does not come out of improvements in productivity but has its origin in current scarcity and the stresses of development, can be regarded as a sign of prosperity. Productivity has many facets and it suffers because of the one-sided and rigid approach which is frequently adopted in dealing with it both by the employers and the workers. Rationalisation of effort in every direction is the true basis of productivity..."

It is important to notice that the reference in the Third Plan is to the rigidities of thinking, both of management and labour.

The question is, to what extent have these rigidities been softened, and are management and labour now really appreciative of the need for utilising productivity techniques?

I think it can be stated, speaking of large-scale industry, that on the mind of management a definite impact has been made as a result of the activities of the National Productivity Council as well as of associated bodies such as management associations. This process has been assisted by the fact that we are witnessing in India the beginnings of the managerial revolution that has taken place in industrially advanced countries in the sense that management is being transferred more and more to qualified professional staff rather than to owners and their sons. The expression "industrial engineer" was hardly known a few years ago; work study was a relatively unknown innovation; statistical quality control was regarded as belonging more to the domain of statistical theory; and cost and budgetary control was regarded more as a finesse than as an established management tool. All this has been changing; and, certainly amongst the larger industrial groups in the country, there is a growing appreciation of the nature of the tools now available and of the need of employing them with a view to raising productivity. A great deal, of course, remains to be done, but, on the basis of the progress achieved during the last five and a half years, one may reasonably conclude that satisfactory progress in this direction will be maintained. It must be conceded, however, that this statement is true only of relatively large-scale industry. Medium and small-scale industries have yet to feel the impact of the productivity movement.

In regard to labour, the position is very different. Of necessity, management is better able to appreciate the need for productivity techniques, both because it consists of people who have had better chances of education and travel, and also because the advantages of introducing new techniques become evident to them pretty soon.

Labour finds it more difficult to understand the need for these techniques because of a suspicion, which is natural in the circumstances of our country, with a very high rate of unemployment and under-employment, that the application of productivity techniques results in the reduction of job opportunities. In other words, the workman begins with a suspicion that the application of work study, for instance, is merely a device to increase profits by an increase in work-load and a retrenchment of staff. To make the workman appreciate the need for introducing productivity techniques is, therefore, an uphill task, except where it can be demonstrated that by such techniques profits will increase and that he will get a share of such profits.

One of the projects that the National Productivity Council has undertaken is a study on the sharing of the gains of productivity. This study is not yet complete. In the meanwhile, it is satisfactory to note that, having regard to the difficulties inherent in the labour situation in India, the response of workmen to the study of productivity techniques has been better than may have been supposed. The National Productivity Council hopes to demonstrate, by the publication of concrete examples, that increased productivity does mean a benefit to labour. It may be hoped that when such a study is published, the response of labour will acquire further momentum.

One possible method of measuring the progress of productivity is to examine statistics of productivity from time to time. Unfortunately, this technique suffers from serious difficulties. The basic difficulty is that increase in productivity could be, and often is, the result of a variety of factors. Productivity may rise because of greater mechanisation or the use of more sophisticated equipment. It may rise because layout and planning have been improved. It may also increase because labour has increased its efforts. To isolate one single factor such as, for instance, the contribution of labour to increased productivity, is statistically a most complicated exercise. Subject to this disqualification, it is, I think, possible to say that the productivity of labour, which is what most people in India understand by productivity, has gone up in the last few years. Taking, for example, cotton textiles, a very old industry in India, employment in the last few years has gone up by 15 per cent and output by some 39 per cent. This is an industry where no spectacular change has been introduced in the methods of production and the rise in productivity may be largely attributed to labour. Taking the whole field of textiles, that is to say, cotton, jute, and woollen, output has increased by over 47 per cent, whereas employment has gone up by only 5 per cent. More substantial increases in productivity are noticeable in some of the newly developed industries, such as chemicals and the metal industries. It must be repeated that no precise statistical significance should be given to these figures and they may be taken merely as an indication of a trend. One sees more concrete evidence of an increase in productivity when one goes round the country and sees factories whose personnel have undergone courses in industrial engineering. Evidence accumulates that at a number of points some real progress is being made.

None of these is, in itself, spectacular, but that is not surprising. For what the productivity movement is trying to do is to induce a change in the psychological approach of both managament and labour; and this change can only be *felt* at this time, and not measured.

DEMOCRATIC PLANNING AND THE ADMINISTRATOR

K. SANTHANAM

EFFICIENCY is the watchword of an administrator at all times and in all places. But the content of this term varies with the politico-economic structure of the society the affairs of which he has to administer. In a police State, the administrator has to be impartial and firm and abide strictly by the rules and routine of his office. If he can add to these qualities personal integrity and some sympathy for the people over whom he rules, he becomes the ideal administrator. His main function is to ensure stability, and if change is inevitable, to see that it takes place as slowly and smoothly as possible. In an advanced capitalist democracy, the administrator has to be almost of the reverse type. He has to be amiable, alert, active and accommodating. His function is similar to that of the traffic policeman in a crowded city. He has to keep things moving. Ordered and quick movement is his motto.

In a totalitarian dictatorship, it is the business of the administrator to deliver the goods. If he has to make grain collections, he has to make them regardless of the fact that little is left to feed the producer. Ruthlessness towards all under him and unqualified obsequiousness before his superiors are his cardinal virtues. He is judged by his successes and failures. While the credit for the former may be appropriated by his superiors, he has to assume full responsibility for the latter. He cannot throw the blame on his subordinates, but he can tyrannise over them.

In free India, which has embarked on a unique career of democratic planning, the successful administrator should endeavour to acquire the virtues of all these three kinds of administrators, and avoid their defects. He has to maintain peace and enforce the rule of law and be perpetually on the watch against religious and communal outbreaks. He has to maintain the record of rights of over five crore peasants. He has to organise relief in case of floods and droughts and other natural calamities, prevent the spread of epidemics, and do all other things which are inescapable to maintain the vast ocean of Indian humanity, the bulk of which has to live on the margin of subsistence. For this purpose, all the virtues of the administrator of the police State are essential.

At the same time, rapid changes have been taking place during the last 15 years. The Five Year Plans have extended the functions of administrators and increased their numbers to such an extent that the work of the police State has ceased to be the major function of Government. Economic and social administration has come to be the main preoccupation of the administrator.

Political democracy has also made it difficult for the administrator to function in the old manner. He cannot now afford to be aloof from the people or operate from a high pedestal of authority. He has also to act quickly if he is not to be overwhelmed by the accumulation of work. While refusing to identify himself with the ruling party, he has to contribute by his efficiency and behaviour to its popularity. On the other hand, he has to resist improper influences urging him to depart from the path of integrity and impartiality.

The Indian administrator has to function within the limits of law and democratic practice, and yet is expected to deliver the goods with the same speed and thoroughness as his colleague in a totalitarian State. He finds himself unable to punish a recalcitrant peon or a negligent clerk without resorting to an elaborate procedure, and yet he should run his office as efficiently as a business house. He cannot refuse to see any public worker. He has to dance attendance on Ministers, high officials and all kinds of committees and visiting teams who inspect or report on the progress of the innumerable plan schemes, and has to participate in conferences and seminars. But loud complaints are heard that there is inordinate delay in the disposal of his legitimate business.

The diversification of the task of the administrator is even more complicated and distracting than the variety of qualities and capacities he is expected to acquire. To illustrate the nature of the new tasks, I shall try to indicate briefly the work of a District Collector, a Director of Education, a Manager of a public undertaking, a Controller of Supplies, and a Secretary.

The District Collector has, as before, to maintain order in his district, collect the land revenue, keep the record of rights and dispose of revenue cases. But his major task today is to supervise the implementation of development schemes, particularly through the Panchayati Raj institutions. These institutions should, in theory relieve the Collector and his subordinates of many of their responsibilities. But at present the success or the failure of the Panchayati Raj institutions depends to a large extent on the character and ability of the Block Development Officer, and the steady guidance he receives from the district authorities. The Panchayat and the Panchayat Samiti have to be gently persuaded as to what they should do and how they should do it. Even in the matter of the collection of contributions for local public works, the encouragement of district officials plays a significant part.

During the past one year I had to tour the whole country in connection with the work of the Study Team on Panchayat Finances. I found that the Panchayati Raj was taking firm roots wherever it was nursed by enthusiastic and imaginative District Collectors. I am glad to say that I met a large number of such Collectors. The main difficulty of the District Collector of today is that the district and its population in many States are too large. In my opinion, it is wrong to have any district with more than a million population, if the District Collector has to function as an efficient development officer. Even there, he must be given a high-level assistant to look after the normal revenue and police functions. Wherever the development functions are delegated to the assistant, the latter was not able to show the same results.

Further, vertical functioning of the various departments of education, health, public works etc. in isolation has become inconsistent with democratic decentralisation. The Collector has, therefore, to work in close co-operation with other district officials. All of them have to be brought together in a District Council, of which the Collector is the chief. The Zila Parishad of Maharashtra is a bold experiment in decentralisation at the district level, but I doubt if the present scheme of diarchy that has been set up will be more successful than the diarchy at the State level under the Montague-Chelmsford Reforms.

If we take the Director of Education of a State, his main headache is the reconciliation of conflicting policies and the frequent changes in those policies. He is expected to achieve universal primary education and at the same time convert ordinary primary schools into basic schools. At the secondary level, senior basic schools, multi-purpose, junior technical schools, and upgrading of ordinary secondary schools into higher secondary schools present a variety of baffling and difficult problems, which he can neither tackle successfully nor refuse to implement the policies framed under the guidance of the Planning Commission. New ideas and schemes are always out-running the financial or technical resources. The length of the school course is sought to be changed from 10 to 11 or 12 years or *vice versa,* and with each change, the entire curriculum has to be redrafted and elaborate measures have to be taken to phase the change-over. Midday meals have to be provided through complicated financial arrangements and the Panchayati Raj institutions persuaded to construct school buildings to accommodate the annual rush of new pupils.

The running of public enterprise is perhaps the most difficult task thrown on the Indian administrator. I do not agree with those who think that they should be run with officers borrowed from private enterprise or non-officials chosen on political grounds. For one thing, the really competent managers of private undertakings are paid fabulous salaries which no government can afford to pay. Secondly, private enterprise itself is so anxious to secure the services of retired officers that it is almost ridiculous to argue that they are not competent to run public enterprises. I have no doubt that, given proper training and adequate authority, our I.A.S. officers can become competent managers of public undertakings. It is, however, essential that once they are taken over to business management, they should be certain of a career as such which, in terms of emoluments and status, is not at all inferior to, and is if possible higher, than the routine administrative service.

In many ways, the handling of licences, contracts and permits and the regulation of supplies are the most difficult and embarrassing tasks for the administrator. The opportunities for corruption are so great that even the most honest officer is apt to live under a cloud. Yet these services are inescapable in any system of planning.

Finally, the position of the Secretary is a difficult and embarrassing one, especially in the States. To follow the policy laid down by the Planning Commission, to obtain the grants and loans from the relevant Central department, to make his own Minister feel that he is playing a significant part in the scheme of things, and to resist political pressure in the promotion of officers and distribution of contracts, and still to maintain intact his personal integrity requires character, intelligence and tact of the highest degree.

Thus, the responsibilities of Indian administrator under democratic planning have become difficult, distracting and complicated. It is no wonder that some are found wanting or unable to resist temptation. The real surprise is rather that so many have proved equal to their task. To give them proper training, to rationalise their work, to relieve them of unnecessary burdens, to entrust them with sufficient powers to perform their duties, to reward handsomely those who render efficient and honest service and to weed out and punish quickly and effectively those who are incompetent or dishonest requires statesmanship of the highest order. At the same time, his work has become exciting, and for the intelligent and honest administrator the consciousness of playing a vital part in the economic and social evolution of India is bound to be a source of great inspiration.

FAMILY PLANNING: INADEQUATE AWARENESS

S. CHANDRASEKHAR

THAT India's explosive rates of population growth is seriously impeding the rapid economic development of the country and that something effective should be done to reduce the country's birth rate is conceded by all thoughtful people. Secondly, that the Government has taken a courageous and progressive stand on the need for family planning and has embarked on a democratic and voluntary policy of population control is known all the world over. But it is not known for certain whether this national awareness and control policy have resulted in a definitive decline in the additions to the existing population. Such evidence as is available shows that there has been no marked decline in the birth rate and that the country, particularly rural India, which shelters 80 per cent of the population, has not taken to family planning in a serious and purposeful manner.

The Planning Commission has been very conscious of India's population problem from the beginning—the First Five Year Plan. The First Plan allotted Rs. 0.7 crore for family planning while the Second Plan increased the amount to Rs. 3 crore. And the current plan has proposed an outlay of Rs. 25 crore. As the Draft Outline of the Third Five Year Plan points out, "The programme for family planning will be given a very high priority and the number of clinics will be increased from 1,800 to 8,200." It goes on to add, "The family planning programme has been referred to earlier as a key programme for the Third and Fourth Five Year Plans. At the same time it is a programme which has many complex features and its results can only come over a period." While it is true that it would take a decade or two to evaluate the overall effects of a family planning policy, all that we know today points out that some important aspects of family planning have not received the emphasis and importance they deserve.

To the present writer a well-designed and carefully implemented national population policy in favour of family planning must

ADMINISTERING RURAL CHANGE

J. P. BHATTACHARJEE

IN NO other segment of our economy is 'social change' as integral a part of the process of development and, what is more, as essential a method of achieving it as in agriculture and other rural activities. In this extensive sector, social change, by which we shall imply changes in attitude, norm, motivation, behaviour and organisation whether of individuals or of groups, can hardly be looked at as the by-product of economic and technical programmes, or even their 'end product' turned out through a complex process, sometimes described for convenience as the dynamics of economic development. On the contrary, it is part of the intermediate process working out through different interactions of social variables with those of economic activities and technical programmes. Implementation of a plan for rural development can, therefore, be said to imply, tacitly or implicitly, some measure of responsibility for inducing and/or bringing about social change.

The objectives and approach or our Plans have, indeed, been based on a recognition of this inter-relationship. The choice of strategies also shows this recognition, as will be apparent from an enumeration of the main items of the strategy adopted for the development of the rural community and the rural sector. First, the Government has assumed a large measure of responsibility for revitalising the existing social and economic institutions and organising or promoting new ones that are expected to subserve the social interests. The institutions covered in this way are, to mention a few, Panchayats, co-operatives, schools, associate organisations, etc. The methods adopted range from legislation to promotion, support and assistance. Secondly, institutional arrangements and systems determining land tenure, tenancy and the cultivation of land have been brought under a reform programme, the more important aspects of which are yet to be implemented. Thirdly, a countrywide organisation for community development and national extension has been built up in rural areas, keeping in view the need for changing the outlook of the people, offering them information and knowledge of improved technology, and assisting them in the adoption of improved techniques, methods and practices through the provision of supplies, services and credit.

This has also meant an expansion of the Government's administrative machinery in coverage as well as depth. The points of contact of the people with the administration has increased at different levels. Fourthly, decentralisation of administration through Panchayati Raj has been instituted to involve people politically in the process of local development. Finally, emphasis has been placed on encouraging people's co-operation and promoting the growth of leadership as well as individual and group initiative.

The overall strategy of change has been largely directed at the level of the community and important groups. Regulation and control on the actions and behaviour of the individual or the family is sought to be achieved through group processes at this level. Except in respect of land reform and some of the services provided by it, the Government does not, in principle at least, directly operate the rural development activities at the level of the individual; it reaches and influences him through the Panchayat and other institutions and groups. It has, however, reserved the right to by-pass these institutions when they fail to deliver the goods.

The working of this far-reaching scheme of induced and assisted change is based on a number of hypotheses regarding individual and group behaviour. The first hypothesis is that the village as a community is a living entity exercising a certain measure of direction over the economic and social activities of all its members. This community can be helped to grow out of its traditional setting and orientation, so much so that it will be able to undertake productive and welfare activities for the good of all sections. Another assumption is that leadership in the village community is generally informed of social purpose, not merely of sectional interests, and tends to subserve the overall national ideology and objective. Thirdly, individuals have the desire and the aspiration to rise above the restrictive and self-protective codes of traditional behaviour and identify themselves with the national society both in ideology and through rational behaviour.

This broad hypothesis involves a number of assumptions bearing on the acceptance of institutions, innovations and economic forces of change. On the institutional side, there is the requirement that the individuals have developed or are capable of developing fairly rapidly, specific interests centred on their welfare, production and other activities, and organising groups round these interests. As regards the springs of motivation, these are centred not only on the needs and interests of individuals and their families but also on those of the community.

Another hypothesis is that public co-operation for the purpose of accelerating social change can be promoted through administrative encouragement and sponsorship. In its more general form, this raises a basic question, whether and how far a climate or movement for social change can be created through an enlightened administration and accepted as such by the people.

Once the State has created the legal, institutional and material conditions—the infra-structure, the successful working of this strategy and scheme, depends on the one side, on individuals, groups, community and leadership functioning along the assumed lines, and, on the other, the competence and efficiency of the administration to provide knowledge, guidance, training, assistance and support. Over the decade of planning, the general framework of this structure has been created. Hardly anybody would, however, be optimistic enough to say that it has started functioning smoothly and efficiently in the direction of steady progress. Weak spots are there both in structure and the functioning and strengthening. A few of these are discussed in the remaining part of this paper.

Our Plan for rural development includes programmes covering a vast field from agriculture, animal husbandry, co-operation and industries, to education, health, and social welfare services. In some of these areas, there is by now an established community approach in the sense that the members of the community, both individually and jointly, have recognised the need and importance of these activities and facilities and have been demanding their extension at a faster rate. The best examples are education, health, roads and some of the social services. In these spheres of activity, a part of the process of social change has already taken place in the sense that aspiration, expectation and motivation have taken roots. The furtherance of this process seems to have been integrated with the implementation structure discussed above.

There is, however, the other group of activities, mainly in the field of agriculture and other economic pursuits, where decision-making and behaviour are largely individual-centred and the 'positive' role of the community is not discernible in most operations. In these, individual behaviour does not seem to have changed very much in the direction of progressive rationalism underlying the plans and programmes. While it is true that there is a group process working even in these fields, the details of its operation and the channels of communication are not fully known yet. The way in which the village community can participate in and further this process has yet to be fully established. In other words, in respect of adoption of improved methods, practices and techniques the agents involved are still, by and large, the individual family or household operating within the limitations of his resources, skill, environmental and other uncertainties, and the economic institutions. Decision and actions are taken largely by the individual within the framework of lessons derived from tradition and sanctioned by elders and neighbours.

The studies conducted by the Programme Evaluation Organisation on acceptance of practices, improved seed, irrigation, soil conservation and fertilisers bear this out. It appears from these studies that while more attention needs to be given to the group process, the break-through in individual behaviour and the creation of suitable motivation for change in these fields require serious and concerted attempts even to work out the accepted extension methods. Some of these may be mentioned here as immediate areas of improvement. The technical programmes like improved seed, plant protection, and fertiliser need to be demonstrated and proved to the cultivators far more effectively and successfully than has been done in the past. This is not merely a question of increasing the number of such demonstrations; moreover it is one of their method, content and quality. The need is for dissemination of technical knowledge relevant for satisfying the different problems and issues that different cultivators raise and face. Almost every farmer thinks he is unique in his problems. Secondly, the cultivators seldom look at one single practice or method of improvement in isolation. In fact, he is more 'scientific' in this respect and will not be convinced by an apparent demonstration of success of, say, fertiliser use, unless he knows about its effect on future fertility of soil, its interaction with varieties of seed, its dependence on irrigation or assured rainfall and the risks and uncertainties when these as well as market are not normal. A simple answer that avoids all inter-related issues is seldom convincing. Thirdly, tenancy, credit, prices, marketing, are all interlinked in the calculations of farmers and have important bearing on their motivation and ability to adopt innovations. The greater the uncertainty in these respects, the weaker the motivation. Finally, the approach to the question of incentives and inducement needs to be re-examined against this perspective.

Without going into further details, the point may now be restated about the need to reorient our extension methods with a view to focussing attention on problems of individual cultivators as much as possible. The aspects that need re-examination in this context are the soundness and applicability of the research findings, the channels of their communication, the method of their discussion and dissemination, and their integration with the motivation behind adoption and use.

One of the problems that the Government administration will have to face in implementing the strategy of induced social change underlying our plan of rural development is that, in the last analysis, it will have to bear the responsibility for achieving the objectives, and securing the progress stipulated in the plan. It is less difficult for an administration to accept this responsibility as long as it is directly responsible for executing the different activities. Administrative experience and expertise in this country have generally been built up around such activities, whether it is in the field of revenue administration or public works or even education. The methods suitable for this type of work have become a part of our manuals and generally involve decision-making at the highest level and execution of decisions successfully at lower levels through orders and their compliance. This method works successfully in respect of schemes where responsibility and obligation have been placed on the people either as individuals or in groups, through legislation or executive order. When, however, there is no such authority behind the government functionaries, they will have to operate through new methods mainly relying on advice, counselling, guidance, persuasion and inducement. Administrative experience of such methods does not have a long history and needs to be built up from the lowest level. For this purpose, the training and orientation of functionaries from the Village Level Worker to the district officers will have to be given some fresh thought.

The last point that needs reconsideration is the extent to which the extension agency or the rural administration should be kept away from programmes or policies of a controversial or political nature. It is generally recognised that a climate for successful agricultural extension in rural areas cannot be created in an air-tight compartment where the heat of land reform and similar programmes will not be allowed to enter. While this approach may succeed in keeping the administrative machinery non-involved in local politics, it also tends to make the social education and other programmes, or even some of the economic programmes somewhat emaciated. This, however, raises some questions which it is beyond the scope of this paper to go into. Nevertheless, it is a fundamental issue bearing on the administration of rural development and social change. In the last analysis, the extent of economic and social change brought about through development depends on the way in which people and the administration identify themselves with the ideology underlying the plan and co-operate in implementing the legal and other obligations.

OVERHAUL THE SET-UP

N. K. A. RAO

IT IS now realised that the economic and social development of India is dependent upon the technological improvement of agriculture. Recent discussions at the conference of State Ministers of Agriculture, in the Planning Commission and in Parliament, have brought out that efforts made so far have not resulted in significant changes in farming practices. The numerous contributory factors have all been stressed, like intensifying irrigation and drainage programmes, increasing the use of fertilisers, stabilising farm prices, ensuring security of land tenure, and expanding co-operative credit and marketing facilities. While these developments are essential for achieving higher production, it is only efficient administration at all levels that can ensure the success of the programme. The question, therefore, arises whether the existing agricultural services in the States are geared to the task.

That people at the helm of affairs are not satisfied with the organisation as it exists is evident. In October 1957, the conference of State Ministers of Agriculture observed that "serious delays in the execution of several agricultural production schemes in the States were due to administrative complexities and over-centralisation of power". It recommended the setting up of a committee to suggest the right pattern of agricultural organisation. The report of the Agricultural Administration Committee (popularly known as the Nalagarh Committee) suggested several reforms. The Committee deplored the outmoded administrative machinery which 'encourages and promotes mediocrity" and "bestows on them responsibility without authority". It emphasised that "the problem of increasing agricultural production in India is more an administrative problem than a technical one".

Although the Nalagarh Committee reported in October 1958, most of the States have yet to bring about the reforms suggested. The purpose of this article is not only to focus attention on the inadequacy of the administrative set-up in relation to the problems ahead but also to stress that reorganisation would have to go beyond what was indicated by the Nalagarh Committee.

Who will bring about the needed increase in agricultural production ? The obvious answer is : each of the millions of India's farmers. They have to make the required investment in terms of inputs and have to be ensured that the resulting outputs are worth the labour and money spent. The farmers, therefore, have to take part directly in the process of identifying their own problems, establishing goals, assessing resources, selecting alternatives, taking action and assuming responsibility for that action. It is clear that plans developed at the Central and State level but not accepted by the farmers, who alone can carry them out, remain only paper plans. The problem is to develop an administrative machinery which brings about an effective pattern of local planning and execution.

Who, in the agricultural service, is intimately associated with the farmer in his adoption of methods for increasing production ?

The typical set-up of the Agriculture Department of a State is a Director assisted by Additional, Joint and Deputy Directors at the State headquarters, Deputy Directors for each of the regions of the State, District and Additional District Agricultural Officers at the district headquarters, Agricultural Inspectors and finally Field Supervisors. The Development Department provides a Village Level Worker for a group of villages. The Field Supervisors and the Village Level Workers are the technical people functionally associated with the farmers in translating improved technology into actual practice, but in terms of knowledge, pay and initiative they are at the lowest level of the organisation.

An agricultural extension programme can be effective to the extent that the improved practices it recommends to farmers are scientifically valid. These must not only be correct and applicable for a district or a block or a group of villages but must also be sound when applied to individual farms. Today all over the country one sees uniform recommendations of fertiliser applications for large areas comprising a variety of soil fertility levels and soil management practices. Such recommendations not only fail to bring the expected results but waste valuable production supplies and destroy the confidence of the farmers. It is obvious that the unit of the agricultural organisation which is in constant touch with the farmer must have technical ability of a high order and delegated authority to try out practices adapted to the area and not merely implement directions from above.

When a new practice is recommended the farmer has to find additional investment. If expected returns do no accrue, he faces loss. The risks are his, and not the agricultural adviser's. If things do not turn out as calculated, the adviser has nothing to lose since he is secure in his service. However, in a number of countries where agricultural extension or advisory service has made headway, the service is functionally decentralised and the adviser bears responsibility.

In Denmark, advisory work is not organised by the State but by organisations of farmers. The advisers are appointed by the local farmers' and small-holders' associations and their services are often shared by several neighbouring associations. The associations themselves pay the advisers, with Government subsidising the salaries according to specific rules. In U.S.A., the county agents who carry on agricultural advisory work with farmers are employed by County Governing Councils in consultation with the State Agricultural University or College and their salaries are met on agreed basis from the co-operative extension services made up of Federal and State Governments and the local county. The county agents have complete delegated authority to develop programmes in consultation with the farmers. In Japan, extension activity is carried out by the central and local governments (the prefectures) in co-operation with each other, the local government receiving grants from the centre for the purpose and the agricultural officer working at the level of the farmer concerned with the proper demonstration of improved technology.

All this is in contrast to our system where the technically weakest person works at the village level. A hierarchical system in which he has to receive directions for his work will not infuse confidence in the farmer and will not bring forth local and group initiative.

If agricultural yields have to go up in our country, the district has to be regarded as the unit functioning as a technically independent entity in the matter of agricultural development. The country has already adopted democratic decentralisation and vested Panchayats and District Councils with local self-governing powers. It has now become essential to effect a similar decentralisation of the State Agricultural Service in its technical field so that local initiative and responsibility are readily forthcoming. The following organisational pattern is suggested for this purpose :

The district will have District Agricultural Officer as at present. He will be responsible for all the agricultural development work of the district, with *freedom to plan and execute* services without necessarily referring to the Directorate of Agriculture. The link with the Directorate of Agriculture will be through annual or biennial conferences, where he will present his plans of work for discussion and advice. He will develop his plans from actual experience of regional conditions, the resources available within the district and the willingness of individual farmers to work for goals set by them. The Directorate of Agriculture will make allocations of resources to each district according to the plans of the district. The target of production will be developed within the district and will not be laid down by the State as at present.

The District Agricultural Officer will have with him a team of specialists dealing with soils, crops, plant protection, horticulture, etc. There will be an experiment farm for each district which will be managed by these specialists under the District Agricultural Officer, and will be responsible for local research and practical experiments for extension work in the district.

The agricultural advisory or extension staff in each of the development blocks of the district will work under the District Agricultural Officer, though continuing to remain part of block personnel under the Block Development Officer. A more desirable arrangement might be that every Block Development Officer is technically trained in agriculture devoting a major part of his time to agricultural development within the block and assigning to other officers the remaining aspects of the Community Development programme such as social education and co-operation.

The Village Level Worker will not have more than five villages under his jurisdiction. Along with the Block Agricultural Officer he will be responsible for assisting individual farmers. The block will also have a demonstration farm under the Agricultural Officer assisted by technicians, each trained in a broad field of agriculture like agronomy (including soils and crops), plant protection, and farm management. This research unit will be concerned with trying out a combination of improved agricultural practices.

These specialists will work closely with the Village Level Worker in laying out demonstrations in farmers' fields. As in

Japan, a number of result-demonstration farms will be set up by the Agricultural Officer in the farmers' fields to carry conviction to them about the efficacy of the recommended measures. As contrasted with the existing practice of demonstrations, these demonstrations will have originated in the work of the agricultural service unit at the block. Problems needing answers on more technical aspects would be passed on to the district experiment station.

In a set-up like the one described above, each demonstration has to be carried to its logical conclusion, while at present demonstrations are laid out only to fulfil targets fixed by higher authorities at the State level and the data are rarely collected or any valid conclusions arrived at. The integration between research and extension (the two-way traffic of which much has been talked but precious little seen in practice) will become more meaningful as the parties concerned are at the spot intimately connected with each other and working under the conditions faced by the farmer.

How will the district agricultural service operate?

Funds for staff salaries will have to be placed at the disposal of the District Council (Zila Parishad) and the Block Committees as also the funds needed for the entire agriculture programme of the district, including the operations of the district experiment farm and the block demonstration farms.

The total funds will be made up of grants from the Central Government, State Government and the local government units. This would mean that substantial share of the present budget of the State Department of Agriculture will be placed at the disposal of the districts. Once total allocations for a district are made by the State, it should be left to the officers at the district and to the extent necessary at the block level to spend the allocations conforming to financial rules framed for operation by the local bodies, namely district council and block committees. The Nalagarh Committee has already made valuable suggestions to liberalise financial rules to execute agricultural development plans expeditiously.

The block committees and district councils should be represented in the process of the selection of the agriculture staff for their respective jurisdictions. Needless to emphasise that for a technically decentralised agricultural development programme, the staff employed at the district and the block level should have a high technical ability received through training in first-rate agricultural institutions with emoluments high enough to attract talent. At each level the units and officers should be given *clearly defined, manageable and inescapable responsibility with full authority to discharge that responsibility*. They should be judged by their initiative, their ability to push through the programme, and by their concrete accomplishments in increasing agricultural production. Appraisal of their work should be done by councils consisting of representatives of block and district committees, State Department of Agriculture, and the State agricultural institution with the District Judge as Chairman. Such councils should also have the responsibility for selection of the staff for the district unit of agricultural service and appointments made by the concerned local governing bodies. Services of those who do not measure up to the challenge should be terminated on the recommendation of the councils named above.

With the agricultural service decentralised at the district level, the State Directorate of Agriculture will concentrate its energies on regional and State-level research. It will also have capable technical officers on whom the District Agricultural Officers could rely for assistance in the solution of their specific problems. Further, the Directorate would ensure the needed agricultural supplies on a State-wide basis and enforce laws to regulate marketing, seed certification, etc. The Directorate would also develop organic relationship with the universities and State colleges of agriculture to develop an integrated programme of teaching, training, research and extension. Much of the Directorate will consist of only senior officers who could form a cadre of All India Agricultural Service.

Only when such integration between research and extension is developed and the district is made a consolidated unit for agricultural development with its staff held responsible for showing positive results, can the present stagnation in agricultural development end.

The Industry-Energy Complex

RATIONAL APPROACH TO POWER

C. M. TRIVEDI

THE TEMPO of power development has been rising over the Plan periods. As against the aggregate installed generating capacity of 2.3 million kW in December 1950, the First Plan witnessed an addition of 1.1 million kW and the Second Plan of 2.1 million kW. The Third Plan envisages a further addition of 7 million kW. The latest appraisal places the total installed generating capacity by the end of the Third Plan at about 12.5 million kW, which, if achieved, would mean more than a five-fold increase since 1950. Obviously, implementation of a power plan of this magnitude and the efficient operation of power systems call for tremendous effort and incessant vigilance, which it is the object of this article to spell out in broad detail.

Execution of Power projects involves the following steps: (a) investigations and preparation of a project report; (b) technical scrutiny by the Central Water and Power Commission, recommendation by the Advisory Committee on Irrigation, Flood Control and Power Projects and approval by the Planning Commission; (c) allotment of foreign exchange; (d) preparation of specifications and invitation of tenders; (e) placing of orders and issue of import licences; (f) land acquisition; (g) procurement of key materials such as steel, cement, welding electrodes, etc.; (h) execution of civil works; (i) arrangements for transport of machinery from ports or manufacturing shops to works site; (j) erection, commissioning and testing. Slipback in these would dislocate the construction programme with consequent postponement of benefits.

Realising the crucial significance of timely implementation of the power plan, a team of officers from the Centre visited all the States in August-November 1961, and discussed with the State authorities how best the construction of power projects on hand could be expedited and what, if any, were the bottlenecks and how far these, including procedural delays could be eliminated. Some of the findings of the team throw useful light on the problems of execution. The team noted that in many cases there was inadequate appreciation of the importance of realistic time schedules of construction and of the need to adhere to them to the maximum feasible extent. Target dates of commissioning of plant indicated earlier were often broken with impunity. In many cases, there was no periodical review of the progress of works at the governmental level and this was partly responsible for worsening of time schedules.

The immediate outcome of the team's discussions was the setting up of a separate Directorate in the Central Water and Power Commission and of a special cell in the Ministry of Irrigation and Power, devoted exclusively to watch the progress of works on projects and to assist the State authorities in the procurement of key materials, release of foreign exchange and obtaining of import licences. Some of the procedure for release of foreign exchange and issue of import licences have been streamlined.

One of the causes of slow progress on projects is the lack of thorough and detailed investigations before deciding to go ahead with the schemes, either hydro or thermal. Incomplete investigations of projects have in the past often resulted in underestimate of costs and overestimate of benefits. The lesson is that States should undertake full-scale and comprehensive investigations of as many projects as possible and select the most economical ones for inclusion in each Plan for execution. Progress in this matter has not been quite satisfactory and deserves careful attention of State Governments.

Hitherto, the bulk of the power plant has had to be imported from abroad, involving a sizable drain on foreign exchange. Indeed, this was the most serious limiting factor in the implementation of the power programme in the Second Plan. The consequent power shortages in many parts of the country in the early years of the Third Plan called for urgent remedial measures. High priority was assigned *inter alia* to power schemes in the Third Plan for release of foreign exchange. During the first two years of the Plan most of the Third Plan power schemes had already been either tied to some foreign aid or arrangements made for procurement of the plant through trade agreements or indigenously from Heavy Electricals Ltd.

Experience thus shows that unless we achieve the largest possible measure of self-sufficiency in plant and machinery, implementation of a large programme of power development as envisaged is likely to be handicapped for lack of foreign exchange. The generating capacity to be added in each year of the Fourth Plan is expected to be of the order of 2 million kW and that in the Fifth and Sixth Plans will be far bigger. Government are going ahead with the setting up of heavy electrical projects to meet the future needs of the country. In addition to the one set-up already at Bhopal, a second plant at Hardwar and a third one at Hyderabad are under construction. With the completion of these factories and attainment of capacity production therefrom, it is anticipated that the needs of the country in heavy electrical plants will be more or less fully met for several years.

The team referred to earlier has drawn attention to another aspect bearing on the time schedules, *i.e.*, preparation of specifications, invitation of tenders, decisions on tenders received and placing of orders. The team noticed that in some cases, abnormal delays occurred in deciding on tenders—sometimes more than a year. Decisions need to be taken promptly.

Cases of lack of co-ordination in scheduling of various components of projects were also brought to light—power plant having been received in time and civil works remaining incomplete; timely ordering of switchgear without corresponding procurement of control cables and other accessories, etc. In some cases, failure to acquire land in time accounted for delays in execution of projects. These examples highlight the need to draw up construction schedules to the minutest detail and adhere to them as closely as possible. It is realised that delays in the receipt of imported equipment occur sometimes. While this is largely beyond our control, it is essential to keep a vigilant eye on their delivery periods and to do at all levels whatever is feasible to minimise these delays.

In the context of our large plans for industrialisation, shortages of certain key materials, such as steel, cement, welding electrodes, etc., are inevitable. This calls for procurement action well in advance of actual requirement of the materials.

Very often, transport of imported consignments from ports to works site or from manufacturing shops to the site of a power station have led to considerable delays in erection. In large projects where a number of consignments are expected from abroad, it may be desirable to post a full-time liaison officer at the port to receive materials, arrange for railway wagons and book them to destination. Special well-wagons suitable for carrying heavy and bulky equipment are in short supply and have to be requisitioned in good time.

Recruitment of an adequate number of experienced technical personnel in proper time is another factor which may affect the progress of works in projects. After construction, staff will also be needed for operating the plants efficiently. Advance planning is necessary for arranging for the requisite number of technicians and for training them adequately while construction is proceeding.

Efficient use of fuel is of particular importance in the case of thermal power stations. An organised attempt to operate the units at the highest attainable efficiency can reduce consumption of coal and thus lower generation costs. Reports of the National Fuel Efficiency Service in U.K. indicate that the adoption of (i) acceptable standards of instrumentation, and (ii) improvements in boiler operation and computation of heat balances by means of which the energy actually used is compared with the theoretical energy required, would result in substantial savings in fuel consumption.

A fuel efficiency cell has recently been formed in the Central Water and Power Commission with the object of studying all aspects of the problem. It is not commonly known that the capital investment needed to save a ton of fuel is often less than that required to produce the same additional amount of fuel.

Other factors which influence efficiencies of thermal generating plant are the characteristics of the generating plant and the load and power systems. Size of units and parameters of steam are some of the factors in respect of the former category to be taken note of in planning. Thus, installation of large thermal units with higher steam temperatures and pressures would result not only in increased thermal efficiencies, but also in reduction of capital costs per kW of installed generating capacity—a matter of paramount importance in view of scarcity of capital in our country coupled with the highly capital-intensive nature of electricity supply industry. The following figures are indicative of the progress achieved in this direction as furnished in a report of the United Kingdom Electricity Council :

Size of thermal units and efficiency

Unit size	Thermal efficiency per cent	Capital cost of complete station £ per kW of supply output
30	26·0	67 (Rs. 893)
60	29·0	57 (Rs. 760)
100	32·0	58 (Rs. 773)
120	34·0	53 (Rs. 706)
200	36·0	50 (Rs. 667)
275	36·0	41 (Rs. 547)
500	36·5	39 (Rs. 520)

Based on these considerations, the Third Plan envisaged installation of larger sizes of units wherever feasible. About fifty turbo-alternator units of 50/60 MW size, seven units of 75 MW and eleven units of 100-140 MW sizes are included in the Plan. The largest size of power unit which can be installed in a system is of the order of a sixth to a tenth of the system load and this limits the size of the largest unit in a system.

Load characteristics which affect the efficiency of operation are load and utilisation factors. These are inter-related and improvement in one will lead to improvement in the other. Staggering of loads, staggering of office hours and offering tariff incentives for off-peak consumption are some of the measures calculated to improve these factors. Also, interconnected and integrated operation of power systems will be of great benefit in this respect. Thus, in the States of Madras, Mysore and Kerala, which have fully integrated grids, the load factors in 1960-61 were 55.8, 65.6 and 50.6 per cent and the kW hrs. per kW of installed capacity 4,120, 5,200 and 4,200 respectively. In Assam, with isolated power stations, the corresponding figures were 38 per cent and 2,200 kilowatt hours per KW of installed capacity.

In many States, there is scope for reducing transmission and distribution losses. By reinforcing distribution lines, installing power factor corrective equipment and adopting higher distribution voltages, considerable reduction can be effected. To this extent, additional power would become available for consumers.

Reference has already been made to the advantages of integrating power systems of adjacent States into regional grids. These are :

The total system generating capacity to meet the loads would be less on account of diversity of load demands between different systems;

Requirement of stand-by capacity would be less;
Large generating stations could be located at the most economical sites in the region for meeting loads in adjacent States;
Thermal and hydro stations could be operated in a co-ordinated manner resulting in more effective use of machine capacity at hydro plants;
Large size thermo-electric generating plants could be used thereby reducing capital and running costs; and
Mutual assistance could be arranged during times of emergency.

A concrete illustration of the advantages that accrue is that of the interconnected operation of Rihand Power Station with the Bihar-DVC West Bengal grid during a few critical months in 1962-63. Although the available surplus at Rihand was only 20 MW continuous the interconnected and parallel operation of the two grids enabled DVC to avail itself of 100 MW of peaking power.

In the context of these advantages and also because of the uneven endowment of energy resources in the different States, national interests demand that future planning for power should be on a regional basis and large power stations should be set up at the most economical sites and power transmitted to the adjacent States. This approach to the planning of power development was visualised in the Third Plan and it is proposed to adopt it in the Fourth Plan in consultation with State Governments.

The implementation of a large-scale rural electrification programme is beset with several difficulties. The large number of small villages with populations of less than 500, the low density of power demand with poor load factors and the large investments required to bring electricity to these remote parts make these schemes uneconomical.

In order to achieve maximum result with minimum investments, sustained effort should be made to reduce capital costs of transmission and distribution lines and to improve the power demands in villages. The former could be achieved to a certain extent by adoption of reduced factors of safety, lower ground clearances, using wood poles or other low-cost supports and using all aluminium conductors in place of copper.

By 1965-66, the aggregate investment in the electricity supply industry in the public sector is expected to be of the order of Rs. 1,830 crore. Further, large investments are visualised in future Plans. It is, therefore, imperative that the public sector electricity undertakings should not only be self-supporting, but should also earn reasonable surpluses to finance, at least partly, the expansions from year to year.

At present, the revenues of some Electricity Boards are not enough to cover even operation and maintenance expenses, depreciation and interest charges. Surpluses should be secured by framing appropriate tariffs and improving operational and administrative techniques. In view of the importance of a rational price policy for the public sector electricity undertakings, a Working Group on "Price Policy for Electricity Undertakings" has been set up to study the subject and to recommend appropriate policies in regard to tariffs, depreciation and redemption of capital.

PROSPECTS AND PROBLEMS OF SMALL-SCALE INDUSTRIES

BALJIT SINGH

Two recent reports, one by the International Perspective Planning Team on Small Industries[1] and the other issued by the Unesco Research Centre on Social and Economic Development in Southern Asia[2] provide a perspective on the development of small-scale industries in India from two different angles, *viz.* economic and social. Small-scale industry forms a major segment of Indian industry and the Government of India has been alive from the very beginning of planning in the country to its role and problems which, as pointed out by the International Planning Team in 1954, are centred on the issues of modernisation, rationalisation and expansion. The objectives set by the planners for small-scale and village industries are : (i) to meet a substantial part of the increased demand for consumer goods and simple producer goods, (ii) to create large-scale employment at relatively small capital costs; (iii) to mobilise unused resources of capital and skill; (iv) to ensure a more equitable distribution of national income, including the spread of industry over different regions of the country; and (v) to counteract tendencies towards concentration of economic power by a widening of opportunities for new entrants and for medium and small-sized units.

At the present time when the country is endeavouring to achieve rapid industrialisation and establish a socialist pattern of society, it is essential that while most efficient techniques be adopted in all industries, monopoly capitalism should be strictly eschewed. Fulfilment of this condition requires that small-scale industries should be in a position to assert themselves and expand on economic and technological considerations rather than on the basis of any ideology favouring them on other grounds. Small-scale industries have come to denote those manufacturing establishments that have a fixed capital of less than Rs. 5 lakh and have to be distinguished from village industries and cottage handicrafts. In 1960, such small-scale factories were responsible for 38 per cent of the total factory employment in the country and produced 33 per cent of the gross output of factory industry.

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[1] Development of Small-Scale Industries in India—Prospects, Problems and Policies. Report submitted to the Ministry of Commerce and Industry, Government of India, July, 1963.

[2] Social Aspects of Small Industries in India—Studies in Howrah and Bombay, UNESCO, 1962.

The International Perspective Planning Team has rightly pointed out that there is considerable scope for the expansion of small industries in the country. In order, however, that small manufactures may be able to realise their full potential, existing programmes for assistance to small industries need to be more sharply focussed and certain basic policy adjustments carried out. At the outset small industries have to be treated separately from 'village industries' in future planning and policy formulations. The small plant and industry is an integral part of modern industry while 'village industries' with their emphasis on handicrafts are not necessarily so.

Further, the small factories are important producers of capital goods as well as of consumer goods and can compete successfully with the medium and large-scale industry as the pattern of organised manufacture becomes more complex and specialised. According to the Team "the chief requirements of modern small factories in order to achieve their integral role in India's rapid industrial expansion are equal access to raw materials and industrial finance, plus selective technical and management assistance". Under the present conditions they appear to be seriously handicapped in comparison with larger units in the allocation of scarce raw materials and imported components. This tends to arrest not only their further development but in several cases even the utilisation of their full capacity. On account of this latter aspect the International Team has concluded that "foreign exchange available for small units should be utilised more for the import of raw materials than for additional capital equipment, and that any loans in the near future should be provided on this basis."

This conclusion has serious policy implications and can be challenged in the overall interest of the development of national economy. Excess capacity here and there is inevitable in the initial stages in the development process. But excess capacity in one segment of an industry small or large cannot be used as an argument for arresting its development all over. A correct policy would be to fix no priorities in this respect and to examine each proposal on its own merits.

Another important recommendation of the Team relates to the functions of Central and State development organisations. It is urged that the Central Small Industries Organisation (CSIO) should be prepared to disengage itself from activities that it has demonstrated and that can be carried forward by others so that it can concentrate its own efforts on the greatest developmental impact. It is, however, essential here that the qualifying condition that the demonstrated programmes can be carried forward by others should first be fulfilled; otherwise there will be a void. The Team has rightly emphasised that the Directorates of Industries at the State level should be properly staffed and manned and work in close liaison with the CSIO. Another main bottleneck to the development of small industries is the shortage of technical personnel and guidance. Efforts should be made to meet these shortages and a stepped-up personnel training programme is urgently indicated. In certain cases, training facilities are also seriously under-utilised and there must be a co-ordination of these facilities with the trainee demand.

Another important recommendation of the Team is with regard to the industrial estates. For some time now it has been clear that there is something amiss in the establishment of industrial estates in many States. An industrial estate is expected to provide a locational advantage to small industry. But if the estate itself is wrongly located its establishment does not overcome, but rather aggravates, the locational disadvantage. It is, therefore, essential that before an industrial estate is established its economic viability be proved and such estates be planned in combination with such other elements of industrial development as large factories, training facilities, civic amenities and housing, supply of transport and power, availability of material and labour inputs and the market for their output. Ancillary relationship with large units are an important potential source of strength to small industrial units though it does not necessarily mean that there should be segmented licensing in the large and small industry sectors as in the present common production programmes.

Finally, there is need for dispersal of industry and small industries can play a major role in this respect. At the same time locational advantages of nearness to large industry, transport and power facilities etc. cannot be ignored in the establishment of small industries. In brief, as the Team has rightly pointed out, small industry is no more immune to the laws of economics than is large industry and as such "a policy of trying to implement large amount of industries in the most backward areas or directly in villages is doomed to failure and cannot be justified economically". Actually, the villages should be developed through handicrafts and village industries while further industrialisation should be located around the growing towns and cities.

The Team, possibly on account of its terms of reference, failed to tackle with a most serious bottleneck in the development of small-scale industries in the country, *viz.*, the scarcity of entrepreneurship. The differential rates of growth during the last ten years in the various parts of the country in the development of small industries can to a large extent be explained by this factor. Some serious thought should be given to analyse the determinants of this determinant.

Enterprise depends more on the character and spirit of a people, on their culture and values, on their aspirations and outlook, and on the social climate around them than on the availability of raw materials, finance or markets. This demands, as has many times been emphasised, that 'science should be in the air' and the traditional occupations of a leisured class be at a discount.

This brings us to the social aspects that act and counteract on small-scale industries. The Karve Committee, at the time of the Second Five Year Plan, built a case for small industries mainly on the basis of the social security aspect. The argument that owing to their high labour-capital ratio the small industries are more suited to our conditions than large industry is only as strong as the argument that these could help in the establishment of an equalitarian society. The UNESCO studies in Howrah and Bombay of selected turning shops, blacksmithies and art silk units form part of a series of studies in Southern Asia to throw light on the social implications of small-scale industry in the region. In Howrah under the shadow of many large industries there have developed a large number of small engineering establishments. These turning shops functioning in their own right serve as feeders and ancillaries to the giant industrial machinery in the town. In addition a large number of blacksmithies have grown up for turning out simple products using scrap as raw material.

The work group in the units studies in Howrah was small enough for face-to-face contest and the form of ownership was primarily personal. There have been little changes in ownership or product structure over the last five years, reflecting essentially a conservative one-man-controlled business organisation with a low turnover and depending on self-made or second-hand machines. A limitation of the Howrah study is that it is only of a pilot character and does not exhaust the range of social implications of small industries so that any deep probe is not possible on the basis of these results.

The metropolis of Bombay, where a parallel study on art silk units was carried out, accounts for a marked concentration of small industries along with its large-scale establishments proving the point that the locational advantages for small-scale manufacture inhere in large-scale industry. With minor exceptions the entrepreneurs in the industry are either Gujaratis, Jains or Punjabis with trade and commerce as ancestral occupation in most cases. Previous industrial experience did not count much in making an entrepreneur. As in large industry the small-scale entrepreneurs too were found to be having little in common socially and culturally with the workers whose mother tongue was mainly Marathi or Tamil and other Dravidian languages. Labour was thus largely impersonal as in large industry in contrast to the work group in the small engineering industry in Howrah which was founded on kinship or village ties. In a sense the Bombay art silk small industrialist represents a more advanced stage of entrepreneurship than that of Howrah where domestic and business accounts are undifferentiated. On the whole the study of these units at Bombay and Howrah are significant in throwing light on growth of enterprise, work practices, work attitude and motivations and the social background within which the small-scale industry operates.

In the Indian context the problems of both equalisation of opportunities and that of removal of social handicaps have first to be tackled in the context of groups rather than individuals. In tackling them, as in dealing with the employment problem, there is little doubt that small industries not only can make a major contribution but form perhaps the most potent weapons in our armoury. But this requires bold action by the State as much in the social field as in the economic. The 'subordinated' groups at the margin rather than individuals in these groups have to be given facilities and encouragement to rise in the social status scale through a system of preferential treatment for the establishment of small industries. But it will not be enough for the State to play the role of a "facilitator". In order that small industries may fulfil their proper functions in the industrialisation of the economy and in the socialisation of its structure the State will have to be an initiator as well as a partner. For this purpose, along with the establishment of industrial estates, complete blue-prints have to be prepared for the different units that could be located therein; arrangements made for their capital equipment and raw materials; facilities of power and transport given; training programmes undertaken to augment the supply of needed skills; and State-partnered co-operatives of the workers organised to undertake these units. Such programmes should be phased according to a time-schedule both in and outside the industrial estates. The State may gradually withdraw from the older units as its workers gather the necessary experience to run these undertakings on co-operative lines without State-partnership. It is a positive programme of this type, rather than a facilitating programme of the type undertaken hitherto, that is required to push forward the small industries from the viewpoint of both their employment potential and contribution to industrialisation on the one hand and establishment of a socialist pattern of society. Hence it is time that economic planning in the country be reappraised in the light of the needs and potential of small-scale industries.

PUBLIC SECTOR INDUSTRIAL PROJECTS

K. S. GILL

THE creation of an adequate base of key industries—metal, engineering, chemical, petroleum etc.—forms the core of the process of industrialisation initiated by the Second Plan. Naturally enough, in the initial stages of development, the creation of such a base has been largely outside the competence of private enterprise. The public sector has, therefore, been called upon to play the leading role in setting up key and basic industries. This has been reflected in a sharp increase in industrial investment in the public sector. Such investment rose from just Rs. 57 crore in the First Plan to Rs. 820 crore in the Second Plan. The Third Plan target (financial provision) has been set at Rs. 1,470 crore. This amount is about 26 times the First Plan actuals. In the Second Plan, and more so in the Third Plan, the public sector has been responsible for a large number of major projects that are of strategic importance for the progress of industrialisation.

It would be unfair not to acknowledge the progress made so far. It may be appreciated that, as could be expected in pioneering fields, great initial difficulties had to be overcome. The fund of experience with the public sector related to overheads rather than modern basic industry. The projects involved complex technology and were among the biggest of their kind in the world. Progress often depended on factors outside Government control.

It would, however, be irresponsible not to take note of, and seek to eliminate, the various impediment to implementation; a lot hangs on how the public sector industrial projects progress. The plain fact is that these impediments are quite serious. As a result, few projects progress on schedule. Shortfall in targets is the rule; completion on time is a rare event. This was the case with the Second Plan projects, and this is the case today. The shortfalls in vital targets have hampered the progress of the economy as a whole. A few instances may not be out of place.

The Second Plan target for finished steel was set at 4.3 million tons. Actually only 2.37 million tons were produced in that year, mainly on account of the three public sector projects slipping behind schedule. An output of 4.3 million tons is expected to materialise only in 1963-64, *i.e.,* three years after the original target date. The Third Plan target was set at 6.8 million tons including 0.3 million tons from Bokaro. The actual output is unlikely to exceed 5.5 million tons in 1965-66. The shortfall would be mainly due to behind schedule progress of the expansion projects of the public sector plants. There is little chance of the Third Plan target being realised before 1968-69, again a delay of three years. As regards alloy and special steels, so important for the engineering industry, the targeted output of 200,000 tons in 1965-66 was to be accounted for to the extent of 48,000 tons by the Alloy and Special Steel Project (ASP), Durgapur, and another 50,000 tons by the Kanpur and Ishapur ordnance factories. Not a ton can now be expected from the ASP and the Kanpur factory in 1965-66. The ASP is unlikely to realise the Second Plan target before 1967-68. Delay in the implementation of public sector projects has necessitated much heavier steel imports than planned and has, in various ways, hampered industrialisation.

Fertilisers are as vital to agriculture as steel to industry and construction. The Second Plan target for nitrogenous fertiliser was set at 2,90,000 tons in terms of fixed nitrogen. The actual production in 1960-61 was only 97,200 tons (as against 79,000 tons in 1955-56). In 1962-63 production was about 200,000 tons. The Second Plan target is most unlikely to be realised even in the third year of the Third Plan. These delays are accounted for by the fact that the implementation of public sector projects has seriously lagged behind schedule. According to the Second Plan document, the Neyveli fertiliser plant was expected to be in full operation in December, 1960. Actually it is unlikely to go into production before 1965-66 and would definitely not reach capacity production by December 1965, *i.e.* five years after the original target date. The Rourkela fertiliser plant was expected to be in full production (at the original capacity of 80,000 tons) by the end of 1959. Actually it started operation only in the second half of 1962-63 and would not yield 80,000 tons even in 1963-64, a delay of over three years. The Nangal fertiliser plant, too, was expected to be in full production by December 1959. Actually it started production only in February 1961. In 1961-62, it produced a little over half its capacity output. As regards the Third Plan projects, only the Trombay fertiliser plant is likely to be in full production in 1965-66. The Gorakhpur and the Namrup projects are unlikely even to start production by the close of the Third Plan period. The recently taken up Korba project would, of course, spill over into the Fourth Plan.

In the Third Plan, the public sector has been entrusted with several important machine-building projects, particularly in the field of heavy and precision machinery. With the exception of the projects entrusted to the Hindustan Machine Tools, the progress is generally considerably behind schedule. Even though half the Third Plan period is over, several of these projects have made little headway. These include the first and the second heavy plate and vessel works and the heavy structural works, the ball and roller bearing project and the heavy compressors and pumps project. Several others have not yet advanced to the stage of even commencement of construction. These include the two precision instruments projects, the second ship-building yard and the marine diesel engine factory. As regards the strategic Heavy Machine Building Plant, the Foundry Forge, the Heavy Machine Tool Plant, the Coal Mining Machinery Plant and the Heavy Electrical Projects, there is little chance of their realising the capacity and production targets set for 1965-66. It would be unrealistic to expect full production (corresponding to the capacity target for 1965-66) before the second half of the Fourth Plan period. The lag in the implementation of the machine-building projects would add to the difficulties of putting through an adequate Fourth Plan. The shortfall in domestic output would necessitate larger imports of plant and equipment.

Delays have occurred also in the implementation of chemical and pharmaceutical projects. The Organic Intermediates Project, the planning of which started as far back as the early years of the Second Plan, still remains in the doldrums. The Soviet offer of credit for the drug projects was made as early as April, 1958, but the two main projects at Rishikesh and Hyderabad are unlikely to go into production before 1965-66.

The National Coal Development Corporation (NCDC) is no exception to the general rule. As against the Second Plan target of 13.4 million tonnes, it produced 8.06 million tonnes in 1960-61, 6.05 million tonnes in 1961-62 and 8.43 million tonnes in 1962-63. Could it be hoped that the Second Plan target would be realised in the third year of the Third Plan? The Third Plan target for the N.C.D.C. has been set at 30.9 million tonnes. A heavy shortfall looks almost inevitable.

The impediments to implementation deserve serious investigation and effective remedial action. The subject would no doubt be under constant review in the public enterprises, the administrative Ministries and the Planning Commission. An internal assessment is, however, often likely to suffer from the bias towards shifting the responsibility to someone else. An examination by a high-power *ad hoc* committee of officials and non-officials would, perhaps, be more objective and fruitful. The main concern of such a committee should be to draw proper lessons rather than to apportion blame. There has been enough experience, positive as well as negative, during the last seven years to justify such an investigation.

While recognising that only a thorough probe like the one suggested above could bring out fully the various impediments to implementation, one may venture to refer to a few of the more obvious ones. This is attempted below.

An industrial project can be taken up for implementation only after it has been properly formulated. In particular, the scope of the project in terms of its product pattern must be clearly defined. This often entails the preparation of a preliminary project report or a feasibility study. In the case of several projects, this essential *planning* step had not been completed by the time the Third Plan was finalised. In the case of some other projects, the scope was defined vaguely in terms of the value of output. What is needed is definition in physical terms. Clearly, all such projects, though included in the Third Plan, were not ready for immediate implementation. In the case of some of these, this step still remains to be completed, even though we are half way through the Third Plan period. Inadequate planning is thus one major factor responsible for delays in implementation. Neither the Ministries and the public enterprises nor the

Planning Commission are yet adequately equipped or psychologically geared for expeditious and timely formulation of plan projects. This is reflected in the slow progress with the formulation of the Fourth Plan programmes in such long-gestation fields as iron and steel, machine building, fertilisers, and basic chemicals initiated in the summer of 1962.

The time taken in the finalisation of arrangements for meeting the external cost component of projects has been another major cause of delay. The Third Plan has been heavily dependent on external assistance. Out of the estimated Rs. 2,030 crore foreign exchange cost of the Third Plan investment programmes, no less than Rs. 1,900 crore were expected to be obtained through external assistance. This meant that projects could be proceeded with only if and when external assistance was available. In some cases such assistance has not been forthcoming at all. In several other cases, the offer of aid was followed by fairly prolonged negotiations regarding the exact terms and the precise allocation of this aid so that considerable time elapsed before the project could proceed to place orders. Of course, in several cases, delays in arranging foreign assistance were also due to the fact that projects concerned were not yet in an advanced enough stage of preparation. When projects depend upon external assistance, there exists a sort of vicious circle. The formulation of projects cannot be carried far enough till there is some indication of the likely source of external finance for them. On the other hand, such projects may not qualify for external assistance till these are advanced enough for quick utilisation. This vicious circle has been operative to some extent in recent years.

Following the formulation of the scope of the project, a number of steps have to be completed before construction could commence. The more important of these are listed below :

(1) Choice of location.
(2) Acquisition of land.
(3) Preparation and approval of detailed project report.
(4) Award of contracts for plant and equipment.
(5) Preparation of working drawings for construction.
(6) Award of contracts for structural fabrication, civil work and erection of plant and equipment.

(7) Procurement of construction materials to be supplied to contractors.

(8) Finalisation of arrangements for bought-out services (power, water, etc.) for construction.

(9) Preparation of construction and commissioning schedules.

Generally these steps take several years, often longer than actual construction. Existing arrangements and facilities for the completion of these steps are generally very inadequate and the procedures very dilatory. The delay in the implementation of several projects has been due very largely to the under-estimation of the time required for the above steps.

Delays occur in the construction phase also. Often it takes much longer than necessary or anticipated to set up a proper project authority. Physical scarcities, the absence of a detailed Annual Plan to serve as a guide for the allocation of scarce materials, and inadequate administrative arrangements for the enforcement of allocational priorities combine to cause delays in the procurement of constructional materials and facilities. The fact that generally the bulk of the equipment has to be imported involving considerable lead times adds to the difficulties of timely deliveries. Moreover, construction of modern industrial complexes is a much more specialised job than the construction of roads, canals, administrative buildings, etc. It calls for the creation of specialised construction organisations. In the absence of such agencies, the construction organisation has to be set up afresh for each scheme and has to be disbanded on its completion. This is very wasteful in terms of time, cost and useful experience. The need for setting up specialised agencies for designing and construction was recognised in the Third Plan document. Pending implementation of this recommendation in regard to specialised organisations for the construction of modern industrial units, a gap in the needed facilities continues to make itself felt.

The planning of construction and commissioning schedules is often unscientific and unrealistic. Little progress has yet been made in adopting modern programming techniques such as the critical path method to work out schedules that dovetail the various parts of the project properly and cut down construction time to the minimum practicable. Discipline in the matter of adherence to schedules is also quite loose. Behind the schedule progress being the rule, there is no shake-up of project authorities and other administrative agencies even when the most important of the projects slip by years.

Finally, there are delays in the utilisation of the capacity created. Some of these delays are inescapable. It is impossible to avoid teething troubles altogether. There are, however, quite a few others that could be avoided through better programming. For instance, one has a serious apprehension that in the case of the heavy machinery enterprises now being set up, the gap between the creation of capacity and its full utilisation may extend over several years. Delays in the recruitment and training personnel, setting up product design organisations, procuring adequate orders, and arranging for the supply of bought-out materials and components are some of the factors that lend substance to this apprehension.

Limitations of space prevent even an outline reference to the required remedial measures. The present article is, therefore, confined to posing the problem, making a brief refrence to some of its more obvious elements and inviting attention to the urgency of serious investigations and effective remedial action. The object is not to run down the public sector but to press for measures for its invigoration commensurate with its key role in industrialisation. Only a sincere friend would care to offer constructive criticism; a wise foe should consider silence more promising.

COST REDUCTION

S. K. MURANJAN

UNDER a free economy such as prevailed in our country before 1939, control of costs is automatic. Unless competition gives rise to monopoly or oligopoly, every unit has to strive to check its costs if it is to survive and make a profit. As entry is by definition free, large profits cannot be retained long without reducing costs or facing new competing units. The penalty of sustained high costs is swift and certain losses and ultimate extinction. Internal competition is not, however, the only restraint on costs. Although tariffs protect to an extent certain selected industries, the check of foreign trade is not less real or less inexorable. Every industry has to maintain itself against more or less keen competition from scores of active or potential sources of foreign supplies and it can do so only by means of competitive prices and quality of its goods. As inefficiency or mistakes are sure to be penalised, no outside authority is required to keep a watch over or interfere with production costs.

What is equally important, every producer is more or less completely in control of his own costs. This is not to say that even in unplanned, free economies, the Government has no influence on business costs. But its direct concern with those costs is limited to economic overheads which it undertakes to provide. Rail transport and road facilities were in this country almost the only overheads for which Indian Government accepted responsibility in pre-1939 days. It was possible by building roads on a certain pattern or fixing railway rates in a particular manner to encourage or discourage trade or industries in particular directions. Even in those days, Government could have expanded the provision of overheads to include power and water without exciting adverse comments as interference with private enterprise. But as industrialisation was hardly the policy of the British Government for this country, it is hardly surprising that it never thought of this.

With this adoption of planning, the double check of internal and external competition has been suspended to a material extent. **In the first place, for reasons which are well known, a public** sector has come into existence. It has, therefore, become necessary to prevent undue competitions for investment resources, real or financial, between the two. Besides, there are priorities, high or low, in each of the two sectors and employment of resources has to be in accordance with those priorities. A system of licensing has, therefore, come into vogue which covers capital issues, establishment of new units, expansion of capacity, diversification or addition to products, etc. Free entry is more or less severely restricted and the incentive to incessant reduction of costs visibly diminished.

The prohibition of, or more or less severe restriction on, imports of luxury goods or goods which minister to production of such goods does not explain the origin of our present import controls. Such prohibitions or restrictions have become familiar to us now as conserving our foreign exchange resources or domestic investment resources. But the original impulse to quantitative import restrictions did not proceed from the needs of planning at all. The war ended in this country as in many other countries with large pent-up financial resources and, therefore, pent-up potential demand with certain classes of people. These threatened now and again to break out into inflation and adverse trade balances. The demonetisation of thousand rupee notes proved a mockery. The devaluation of 1949 even did not correct the situation firstly because it was devaluation against the dollar only and more so because the continuation of controls sustained the rising reservoir of pent-up financial resources.

It is a moot point whether in a country with its trade balance in good trim, the adoption of planning with deficit financing, even such as we have adopted, must needs involve quantitative import restrictions. The answer will depend on two questions: whether tariffs are enough to take care of growing industries and whether priorities of planned investment would allow adequate weight to the need of an expanding export trade. If these two questions are answered in the affirmative, quantitative import restrictions need not be an inseparable adjunct of planning. True, in the absence of import restrictions, growing industries would have to compete in quality at least with foreign goods and export industries would divert to themselves more investment resources. But for all that, the economy would enjoy more sturdy health as the state of the trade balance would, time and again, hoist the danger signal against inflation or rising costs.

As things happened, no serious effort was initiated in pre-planning or initial planning days to eliminate quantitative import restrictions. As planning got more and more into trade-balance difficulties, further and further import restrictions were superimposed on pre-existing restrictions. This is how quantitative restrictions have spread to even essential requirements like vital raw materials and even capital equipment. Quantitative restrictions have even developed an attraction of their own on the ground that countless users' licencees obtain their raw materials, etc. at approximately international prices and their *ex*-factory prices at least can be frozen at moderate levels! In any case the dismantling of quantitative import restriction can now be only a long-term objective and during the interim period efforts must be made to bring our costs and prices into parity with foreign costs and prices.

The aggregate effect of the present situation is that the check of foreign competition has also become largely inoperative and domestic costs and efficiency have parted company with foreign costs and efficiency.

This is how Government has become responsible in several industries for the size, individual expansion and number of units and even the quality and design of their products. But this is not all. Planning involves social objectives, many of which have a serious bearing on the efficiency of the whole industrial structure. One such social objective is regional development which in practice is sometimes difficult to distinguish from regional political pressure for location in particular areas. In certain cases no doubt, physical conditions dictate location. But in others, many alternative locations are possible and it is not always the case that efficiency and viability are allowed to prevail over political expediency. Another social objective is the protection of the small-scale sector or the traditional sector both of which are somehow identified with maintenance of low incomes but widespread employment. This has discriminatory taxation or physical restrictions on the large-scale sector with inevitable consequences on its progress and efficiency, which call for careful investigation.

This planned regulation of size, number, location, technical condition, etc. of units in many industries raises two difficulties. Self-evidently, decisions on size, number, location, technological condition, etc. cannot be reached except on the basis of study of relative efficiency, *i.e.* costs. Secondly, with the restriction of free entry, conditions of shortage prevail in many industries for more or less long durations unless it is feasible to allow new units or expansion of old units without much delay. In such circumstances, the incentives to efficiency are very much weakened and there is every danger that the country may have to carry indefinitely the load of inefficient units and industries in the name of planned development. A vigilant watch on cost-trends is thus the only alternative which could take the place of competition which is necessarily more or less suspended under planning.

The actual procedure of cost-analysis involves not a few difficulties. If the industry under investigation is composed of a few units, it would be possible to cost all the units. But if the industry is composed of scores and hundreds of units, some selection has to be made. In the study of relative efficiency and the factors which influence it, the most suggestive contrast should lie between the most efficient and the least efficient units. But it is not easy to frame an overall index of efficiency which would be an unerring guide to allocation of units to one group or the other. The ratio of gross or net profits to sales, physical productivity per unit of some outstanding factor of production, etc. could be suggested but every such index has its own special limitations. A good deal of discretion and judgment, particularly in the light of past record of each unit, must necessarily enter into the final decision.

In the interpretation of the assembled costing data, it is necessary to guard against certain dangers. It rarely happens that the relative levels of costs are decisively influenced by a few outstanding factors like power, labour or raw materials. The efficiency and ultimate viability of a unit are the outcome in the aggregate of countless cost elements. Each unit is at an advantage in relation to certain factors and at a disadvantage in relation to other factors. A unit which is ideally situated in relation to all factors must always be a dream and a dream is not a sound basis for reaching practical verdicts for a practical world. At the same time, it must not be overlooked that in a dynamic world, levels of costs are high or low only in relation to a particular situation or set of circumstances and one must not be oblivious of new forces which are already knocking at the door and are bound to assert themselves sooner or later.

Secondly, it is important to distinguish between cost-elements which are the effect of forces which influence, by and large, the industry as a whole and those others which are more or less clearly peculiar to each individual unit. It is obvious that an outside authority like the Government could operate only on the general forces at work which bear a share in the cost levels of any industry. Factorwise costs throw quite important light on effects of location, capacity, use of raw materials, standardisation of products, etc. which are important considerations in issue of licences. Processwise costs—where production is split into distinct processes—bring out many times the wisdom or unwisdom of employing particular kinds of equipment—which again is obviously a matter of general policy. As regards deficiencies which are clearly special to individual units, the matters have to be taken up separately with each unit concerned. Quality and problems of labour, patterns of production, availability of funds, sources of power and raw materials are examples of difficulties which are more or less special to each individual unit.

The discussion has related till now to industrial costs or what are sometimes appropriately called conversion costs. But many of our industries are largely based on agricultural products like cotton, sugarcane, oilseeds, etc., and this raises some of the most difficult problems of our economy. These raw materials have to be grown in competition with food grains and because of the precarious balance of our food situation, cannot be allowed to overstep certain acreage limits. For one thing, therefore, we have to arrange for the utmost economic use of the limited supplies of these products with proper regard to the purpose in view. In the case of raw materials like cotton or oilseeds, it cannot be said that we have yet achieved the most economic allocation possible.

Much more difficult is the problem of the prices which industry has to pay for them. Stabilisation of agricultural prices is no doubt most desirable in the interests of all classes—farmers and non-farmers. But the levels at which they are to be stabilised involve conflicts of interests which are hard to reconcile. As in some other countries, farmers in India are potentially a great political force and there are sufficient indications that they are fast becoming aware of their strategic position in the governance of this country. In other circumstances, international markets would impose a ceiling on the extent of the exploitation which farmers would achieve at the expense of non-farming classes and the country generally. But planning with its severe restrictions on foreign trade has created a situation in which abuse of political power could become a grave danger to the health of the economy. The alignment of prices of different agricultural products on a rational and scientific basis which is understood by all interests is much more than overdue if this country is to maintain and improve its position in the world markets and achieve the proper trade-balance. As things are, cost-data for agriculture hardly exist at present.

All are agreed that the only economic and final solution of the farmer's problem is an increase in the per acre yield of all crops which by any standard is too low and not an increase in prices from time to time under political or class pressure. Unfortunately, despite three Five Year Plans, practically nothing has been achieved on this front.

It is important to distinguish between procedures for price fixation and cost reduction which self-evidently are not identical objectives. Price-fixation, the need for which arises from a more or less temporary shortage, proceeds on the presumption, right or wrong, that during this short interval at least nothing should be done to aggravate the shortage by curtailment of production. There is no such limiting condition in cost reduction studies which are essentially inquiries into causes of efficiency or inefficiency of industries. Elimination of these causes must cover a very wide field including Government policies, structure and organisation, relative merits of different technologies, price-policies regarding raw materials, etc. which hardly fall within the ambit of price-fixation. It would be no exaggeration to say that by and large price-fixation is backward-looking while cost reduction is forward-looking. The number, classification, character and even content of costings involved in the two procedures are quite different and it is not likely that efficiency studies of diverse industries could (as in the case of price-fixation) be ever reduced to a pattern or routine. When it is recalled that industrial efficiency is a function not merely of domestic conditions but must take note of foreign trends, the much wider perspective of cost reduction studies becomes still more clear.

Study of productivity has an obviously close relationship to that of cost reduction and it is necessary to indicate the relative position of the two. In erecting and working a factory, some decisions have to be made on purely financial grounds while in others, both financial and technical considerations are intertwined. Given the technical conditions of production, location of a factory is almost entirely an economic or financial decision. But in installing a particular type of equipment, while technical considerations are predominant they must also take account of the economic conditions in which the equipment is to be set up. The role of productivity analysis is subsequent to technical and financial decisions. Given the technical conditions as they are, productivity analysis investigates why the results are not better than they actually are. This is why productivity investigations are valid for each unit for itself but rarely embark on generalisations for the industry as a whole. Inter-factory productivity comparisons are apt to be as barren of finality as international productivity comparisons for the simple reason that the financial outcome and not quantum of physical product decides the success or failure of production. As conditions differ from unit to unit and productivity is the joint outcome of more than one factor, differences in productivity are hardly to be traced to any particular cause or set of causes. It is possible to make experiments in the same factory with appropriate controlled variations in conditions of working. But it would hardly be feasible to make the required variations in more than one factory to arrive at a solution of a particular issue in question.

The problem of costs has become very acute with the difficulties of our trade-balance and export trade. When the First Plan was on the anvil, it is doubtful whether the farmers had even a vague notion of the importance of expanding exports to the implementation of our Plans. It was only actual experience which brought the realisation that as our Plans progress, there would be more and not less need of foreign exchange. Even if the realisation had dawned earlier, it would not have been easy to formulate our planned priorities so as to allow for the need of expansion of export trade. It is not easy to select particular lines of production exports of which offer the maximum advantage to the exporting country. While a country can export almost any product which it can offer at competitive prices against its rivals, it can never be proved that it could not produce some other products even more cheaply and, therefore, export with still greater advantage. The question of alternative choices arises because over the short period at least resources for investment are limited. Under competitive conditions, the actual fact of exports is the only proof of a *post facto* character, that investment resources have been most advantageously allocated. But under planning, no index can be invoked to prove that one industry is better suited for export production than another and, therefore, investment priorities should conform to one pattern rather than another.

The difficulty is somewhat allayed in the case of what are called our traditional exports. We inherit these traditional exports from pre-planning and pre-war times. There is, therefore, some presumption that these lines of production are economically suited for exports. The development and expansion of these traditional export lines for the purpose of more export need not cause fear of misdirection or frustration of investment.

But investment under our planning has till now been dominated by concern for domestic development and has recorded by and large a distinct shift from traditional lines to new lines of production. In the industrial field in particular, many new industries have made their appearance. As indicated above, it is not possible to judge *ex-ante* whether they are suited to be export industries. The course of their historical performance alone will indicate their place in the domestic consumption or export sector. Meanwhile, for purposes of export, the approach has to be unitwise rather than industrywise. In each industry, there may be units which are in a position to export their products competitively. A study of the costs of these units relatively to those of others should be useful as indicative of the export problems or generally the efficiency factors of the industry. Unitwise concentration on exports may raise the paradox that efficient units will be penalised while less efficient units will reap the benefit of high domestic prices but the paradox can be met by suitable arrangements.

If the need for control of costs under planning is conceded, it is necessary to think of a suitable organisation for the purpose. It will not make much difference to the character of the organisation whether cost investigations undertaken are regular and periodic or merely *ad hoc* as indicated by actual circumstances. The choice of either alternative will affect only the size of the organisation. The functions to which the organisation must conform proceed from the conclusions of cost reduction studies. The positive conclusions of cost reduction studies should cover (a) general policies regarding size, location, technological pre-conditions, etc.; (b) cases for expansion or amalgamation; (c) identification of units fit only for liquidation; and (d) correction of individual deficiencies.

This would be a very difficult and ambitious programme for any organisation. General policies emerging from cost studies do not call for any special remarks. The need for expansion or amalgamation of existing units arises from the basic conditions of planning. In case the number of units in an industry is small—and this is the case with most of our new industries—economies would be well achieved by expansion wherever necessary. But in those cases where the number is sufficiently large and further increase in total capacity is not possible, amalgamations offer the best means to achieve economies of size. Sugar manufacture is probably the best example of an industry which will benefit by discriminating amalgamations.

The existence of units which are not likely to attain viability but are a mere drag on the progress of an industry presents a still more difficult problem. Such conditions exist in old, established industries like cotton textiles. It is a mere waste of resources to allow such units to drag on indefinitely and become mere obstacles to the expansion of progressive units or the establishment of new units. The liquidation of such units and re-allocation of their usable equipment must involve, however, difficult procedures. Finally, the correction of individual deficiencies revealed in the course of cost investigations is primarily the concern of the unit concerned but in the context of planning it must attract some vigilance from the public authorities.

The foregoing description of the conclusions likely to emerge from cost reduction studies would indicate an Industrial Vigilance and Reconstruction Corporation of which cost reduction studies would be the core and amalgamation, liquidation, allocation or disposal of discarded assets, etc. the main executive activities. The vast powers and technical expertness implied in such decisions would make one hesitate in recommending a corporation or office of this kind. Yet it is difficult to avoid the conclusion that planning must necessarily involve all such responsibilities for the planning authority.

One important point is still left over. The responsibility for level of costs does not rest today entirely or even predominantly with any single agency. The Government, *i.e.,* the planning authority, influences cost levels firstly by its policies regarding new units and the industry generally; secondly, by its efficiency in regard to public sector industries which supply the raw materials or fabricated goods to the private sector; and, thirdly, by its decisions regarding price-fixation of commodities which fall under price-control and which are the raw materials of other industries.

Outside the area falling under Government regulation, the private business man has to strive to reduce his costs and maintain or improve his quality to the utmost that he can. It is clear that responsibility for costs is today very much divided and divided responsibility always incurs the danger that the agencies concerned will merely frustrate each other or one agency will tend to reduce the other to a state of helplessness. Since business enterprise is expected to work and live, there is the danger that it will seek to survive by adoption of devious means like sabotage of quality, illicit gains outside the area of control, etc. It is, therefore, a most urgent need to explore the means of widening the freedom of honest enterprise to use and demonstrate its skill and potentialities. The first step towards this end should be stern and ruthless action against the dilatory and procrastinating working of the administrative machinery—particularly that part of it connected with economic matters. Democratic administration does not mean encouragement to intriguing idlers and unpatriotic mercenaries.

MINERAL RESOURCES

M. S. KRISHNAN

WHENEVER the development of mineral resources comes under discussion, attention is repeatedly directed to the necessity for detailed study of the distribution, quality, quantity and peculiarities of the deposits of the particular minerals concerned. Such studies and assessment concern all minerals which are potentially useful, whether for local consumption or for export. The more important minerals which have been under study for some years are ores of iron, manganese, chrome, gold, copper, lead-zinc and aluminium amongst metalliferous minerals and limestone, dolomite, barite, pyrites, clays etc. among industrial minerals. Special effort was made by the Geological Survey of India (G.S.I.) during the First Plan to train a number of geological officers in modern techniques of mineral investigation such as detailed structural studies and mapping at the surface and underground, with the help of geologists of the U.S. Geological Survey. During the Second Plan, the original trainees were encouraged to extend their work to other deposits such as those of Kolar Gold Fields and to train some younger geologists placed under their care. In recent years, the Economic Geology Division of the G.S.I. appears to have been disbanded and its personnel scattered. As a result, the officers who were given special training in mineral investigation are trying to do other work for which they were not specially trained. This would be readily apparent if an examination is made of the present disposition of these officers and the type of work they are now doing.

Iron Ore : Iron ore deposits of Singhbhum in Bihar and the adjoining districts of Bonai, Keonjhar and Mayurbhanj were mapped some 25 to 30 years ago but no revision has been made in recent years in spite of the fact that a very large staff is now available, numerous enough to undertake all types of essential work. Only a few deposits which were to be exploited as suppliers of raw material for Bhilai, Rourkela and Durgapur steel plants have been investigated by drilling. A number of other deposits still remain to be assessed according to modern standards. Though such deposits are not likely to be exploited for several years to come, an overall assessment of all resources in iron ore must be carried out, as such assessment will lead to a proper and balanced development of the most useful deposits in future.

A number of iron ore deposits are being worked in various areas for supplying ores to the overseas markets, through the State Trading Corporation. The coming in of the S.T.C. into the business of mineral exports in general and iron ore export in particular has not necessarily been in the best interests of planned development of iron ore or other minerals. It is understood that the S.T.C. has contracts with foreign buyers for the supply of 2 to 4 million tons of iron ore or more per annum, the agreed standard grade for export being 65 per cent iron with less than 5 per cent silica and with low phosphorus and sulphur. In view of the fact that there has been talk about exporting 5 million tons or more per annum, it is doubtful if, in spite of our excellent resources in high grade ore, we can maintain such high quality for any great length of time without seriously affecting our own needs for the future.

There was a time, less than 40 years ago, when the United States thought that it had abundant and even inexhaustible resources of high grade ore in the Lake Superior region, but even before the end of the Second World War that country had vigorously to adopt various processes of beneficiation of low grade ore and to look to foreign sources like Venezuela, Brazil, Liberia and North-west Africa for import of high grade ores. At present, much of the domestic production of the U.S.A. is of a low grade and has to undergo extensive and costly beneficiation. This is supplemented by imports of several million tons of high grade ore from other countries.

The undesirability of fixation of such high grade as the standard composition for export was brought to the notice of the S.T.C. and it was suggested that the standard might be fixed at 60 per cent iron. But this suggestion received little or no attention. The high grade for export was adopted by the S.T.C. probably because, unfortunately, there are some competing private producers who seem to be prepared to guarantee the supply ore of 65 per cent grade or better. It would be desirable to examine this question carefully in order that a rational policy may be adopted in the matter of quality of exported ore. An alternative suggestion would be to stop the export of raw ore and replace it gradually by the export of pig iron of standard quality. This would ensure that our raw ores will be treated within the country and all conservation measures adopted.

Manganese Ore : A large part of the important manganese belt of the former M.P. was mapped in detail between the years 1950 and 1955. There are some deposits in other parts of India which require the same detailed attention. Only a summary of the results of investigation carried out before 1955 has so far been published but it is not known when the full report on the manganese belt will see the light of day. It would also appear that no arrangements exist for keeping a watch on the developments taking place in these deposits year by year, by officers who were formerly connected with the study. As at least 40 to 50 per cent of the manganese ore reserves need beneficiation in order to be able to be readily saleable in foreign markets, intensive beneficiation tests will have to be undertaken side by side with the detailed assessment of the ore reserves. Drilling will also have to be conducted to confirm the belief that the deposits probably extend to depths exceeding 1,500 feet over the whole manganese belt.

The manganese industry has suffered a great deal by the unsteady and vacillating policy of taxation and quotas for export. Frequent changes of policy in regard to these have contributed to the dislocation of the trade and to the loss of some of our foreign markets. A firm policy for a fairly long period, say, for four to five years at a time, will go a long way towards stabilising the markets, even though it may be impossible to recapture the lost customers. Such a policy will have to be drawn up by persons familiar with international mineral trade and the problems of the mineral industry.

Gold : The only gold mines which are at present working are the three mines of the Kolar Gold Field and the Hatti Mines in Raichur District. Recent investigations in the K.G.F. have shown that there are large reserves of low grade ore, the successful exploitation of which would require high efficiency in mining and even special incentives by way of tax reduction. The Kolar mines were nationalised a few years ago by the Mysore Government and they have recently been taken over by the Central Government. Whichever agency works the mines should have a large amount of freedom in carrying out the mining operations with no interference beyond the observance of certain well accepted financial procedures. The low grade deposits can be worked only if they are placed under efficient technical management with full freedom to run them as commercial mining enterprises. Otherwise, the mines will have to be closed down soon and may become unworkable in future because of rising costs. This would be tantamount to great national loss, for the operations, so long as they do not involve loss, will provide employment for several hundred people and will produce gold which will always be welcome. In the case of Hatti Mines, it is necessary to expand the size of the operations to make them economic. The daily output will have to be increased from the 300 tons or less of ore per day at present, to something of the order of 800 to 1,000 tons per day.

Copper : India has at present one producing copper mine, namely that of the Indian Copper Corporation in Singhbhum in Bihar with an output of about 8,000 tons of copper per year. The mines can produce more if the number of working faces can be increased and the area of lease is also increased. There are certain other deposits such as those of Khetri and Daribo in Rajasthan and Bhotang and others in Sikkim which are expected to be of workable size. The development of the Khetri deposits seem to have been postponed probably because the whole of the belt has not yet been investigated in detail and the ores not as high in grade as originally envisaged. However, full data will have to be obtained of the deposits by further investigations, in order to ensure that the development plans are based upon hard facts and not on surmises. The same remarks would apply to the other deposits.

Limestone & Dolomite : Our expanding steel and cement industries will require large quantities of limestone and dolomite. Investigations on limestone and dolomite deposits have not kept pace with possible demands though the need for such investigations was pointed out in 1955-56. It is necessary to ensure that data are available on all limestone deposits throughout the length and breadth of the country so that the proved resources are always kept ahead of the demand for consumption.

Ceramic & Other Clays : There is a large and growing demand for various types of clays by the ceramic and other industries. Numerous deposits of clay of varying characters occur in different parts of the country, and even some of the shales are capable of being utilised if they are subjected to accelerated weathering. Several of these have been studied by the G.S.I. and by the Ceramic Research Institute, but a great deal remains to be done.

In conclusion, it may be stated that the systematic study of the mineral deposits in different parts of the country will have to anticipate the demand for particular minerals. It is hard to justify investigations of common minerals in inaccessible places (like the Himalayas) when there are deposits in the plains which are equally good and more accessible.

All modern methods of mineral finding will have to be employed and the expenditure in personnel and funds kept to the minimum.

In the opinion of the writer, a periodical critical assessment is necessary of the work of the various organisations which are engaged in investigation and development of the mineral resources of the country. The agency for such review is best supplied by the Planning Commission which has necessarily to find the resources for the activities of the Government organisations concerned. Only by such independent assessment will it be possible to ensure that these organisations continue to do efficient work with the least expenditure. It is also necessary to ensure that full co-ordination of activities is effected between different organisations charged with mineral investigations, so that there is free exchange of information and experience amongst them and overlap or repetition of work is avoided.

Work and Welfare

SOCIAL WELFARE IN A DEVELOPING ECONOMY

V. K. R. V. RAO

THE BASIC objective of the economic development is of course an increase in production of goods and/or an increase in national income. This increase in national income is obviously intended for the purpose of raising the quantum and quality of welfare in the community. In this process of development, however, certain changes take place, both structural and psychological that have a direct impact on social welfare. It becomes, therefore, necessary that along with the emphasis that is given to production and distribution in economic development, attention needs also specifically to be paid to social welfare. The object of this brief note is to indicate the policy measures which are required to prevent, on the one hand, adverse effects that development may bring about in social welfare and, on the other, to increase the quantum of social welfare accompanying development.

Development involves industrialisation, urbanisation and modernisation of the economy with application of science and technology for the process of production. India's economic development has also evolved along this general pattern. Thus, the last 12 years of planning in our country have seen a big spurt in industrialisation. The factories have increased in number with substantial increases both in investment and in labour and employment, output has been significantly diversified, and an increase of more than 100 per cent has taken place in the overall index of factory output. Urbanisation has also been accelerated. Though the proportion of urban population to total population has not risen significantly during the last Census decade, there is a substantial absolute increase in the number of urban residents with the total urban population standing at a figure of nearly 78 millions in 1961. Scientific and technological education has

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*Based on a speech delivered by Prof. Rao at the inaugural session of the Planning Commission's Seminar on 'Social Welfare in a Developing Economy'.

increased apace during this period and one can see visible signs of the application of science and technology to the process of production in Indian economy.

Such changes inevitably affect the welfare of the people. With development comes a change in the attitude of the people, their sense of belonging, their sense of personality fulfilment, their sense of social identification and their feeling of happiness. Industrialisation, for example, brings a large number of people for the first time under industrial discipline. People who might have been working at home so far and who with all their low standard of living had a greater sense of personal freedom, now find themselves working in factories in conditions of mass production. Commodities cease to be a reflection of individual personalities and becoming standardised and mass-produced. Work becomes almost wholly a means to an end and ceases to give any psychological satisfaction in itself. Industrial discipline involved changes in habits, customs and ways of life that require a considerable measure of both individual and group readjustment. From pasture, agriculture, hunting, tribal life and hand industries to pass on to factory discipline which requires working with machinery, in an organised group and during regular hours—all this calls for changes in attitudes which, if not deliberately promoted and eased, may well lead to a reduction in the sum total of social welfare. Thus, for example, despite 50 years of industrial development in Jamshedpur one cannot still say that the tribal people who constitute the original population of the place, have either been fully integrated into one pattern of living or obtained the full benefits of the progress in the methodology of production. Our development programme has resulted in the establishment of a number of industrial townships, in what are called virgin areas, that is, regions which hitherto have not known the intimate impact of industrialisation; and the establishment of more industrial townships is also likely to follow from our further development programmes.

Apart from changes in work psychology industrialisation as well as urbanisation that accompanies it, also creates social welfare problems. Urbanisation means that a large number of people go out from villages to the towns. When they go there where do they live ? What happens to their housing conditions ? I think every city that has grown up in this country, not excluding our own city of Delhi, has had slums and has been finding it more and more difficult to solve the problem of slums. The Prime Minister has times out of number thrown his entire personal weight behind the programme of eliminating slums and in spite of it he has not been able to make more than a dent upon the problem. If there is any vacant place in a town, labourers soon swarm there and convert them into *jhuggies* and *bustees.*

Must slums always be an accompaniment of industrialisation and urbanisation ? Or is it possible for us to so plan our new cities that right from the start some space is found where casual and temporary labour could be housed in conditions that are not entirely uncivilised ?

Then again urbanisation involves problems of juvenile delinquency, of social education, of family life. Take one important problem about which we have done very little in spite of dozen years of planning in this country—that of women workers. In the last five or six years the number of women who work for a living has grown rapidly, especially in what are called white-collar jobs. Now it is extremely difficult for these women, single women or married women, whose families have been left behind at home, to find accommodation even in a city like Delhi. Working women's hostels are almost conspicuous by their absence even in the bigger cities, let alone the smaller towns. Problems such as these are not directly related to questions of investment and targets of production of goods and services. They reflect the changes that take place during development which affect the human being and disturb the content of his or her welfare.

Let us turn to the consequence of the introduction of science and technology. Science and technology do not merely mean learning to handle machinery. They mean rationality, or what the Prime Minister describes as the scientific temper. They mean the shedding of superstition and of age-long taboos and inhibitions. The scientific temper consists in asking questions and seeking rational solutions not only to economic affairs but also to all the other affairs of a modern industrial society. Now, how do we bring about this rational attitude ? How do we accustom the population to accepting the discipline that accompanies an industrial civilisation ? Until now we have not bothered very much about it and taken it as incidental to economic growth. That may be all right in an unplanned economy. But when we are having a planned economy, we have some responsibility for seeing to it that the transition from a pre-industrial society to an industrialised urban society is as smooth as possible. If we want social welfare to be paid adequate attention in a developing economy, we must find the right answers to three questions which I shall now examine.

First, positive action must be taken for facilitating the change from a pre-developed economy to a developed economy, not so much in physical terms as in psychological terms. The sense of frustration, loneliness and strangeness that comes upon people when they leave their families and come into an industrialised and urbanised society has to be taken care of. Most of us are urban-born and bred and, therefore, we cannot understand this problem fully, but a large number of people who are drawn in by the processes of economic development come from social and psychological surroundings which are entirely different from those to which we are accustomed. How could we facilitate this process of change ? Through education ? Through voluntary institutions ? In physical terms, should we set apart open spaces from the start for casual labourers that come into a town where they can stay and where a few minimum amenities are provided for them ? Should we not have a special machinery in all growing towns whose sole business would be to receive new-comers, facilitate their settling into the new environment, and helping them to find solutions to their problems of accommodation, education, employment, etc. ? All these are questions that need answers if we want to promote social welfare in the context of a developing economy.

Apart from this preventive aspect of social welfare, attention must also be given to the curative aspect. This is something with which we in the Planning Commission are concerned and about which the Central Social Welfare Board has done a great deal within the limited resources placed at its disposal, namely, taking counteraction against the disabilities that accompany the process of economic development. These disabilities mostly fall on the weaker sections of society—children, women, handicapped persons, and older persons, broadly all those who are not able to take care of themselves or organise themselves.

Now to the third objective. I have been disturbed over what I think are the trends that I see emerging—maybe because as one grows older one rather tends to become idyllic about one's past—in the way in which social values are altering amongst the younger generation. Somehow there seems to be some falling off in the standards of values that we used to have 25 or 30 years ago. It is important, therefore, to try and find out how to ensure the maintenance of social values. If we want economic development we cannot escape materialist dynamics. We shall have to emphasise material production, material incentives, and what may be called self-regarding activities. There can be no economic development with *sannyas* and renunciation. And yet how do we, along with the materialist dynamics of economic development, maintain to the maximum possible extent we can, the social values of solidarity, cohesion, compassion, sympathy and identification? That seems to me the most important problem of social welfare in the context of our developing economy.

There are three methods by which we can try and ensure the maintenance of these values in the context of materialist dynamics. One is by promoting, as much as possible, what I would call collective consumption. Collective consumption of social services is the only way by which we really can look after the handicapped and the weaker sections of community. Through governmental initiative and public support, we must expand this field of collective consumption of social services, schools, hospitals, parks, gardens, playgrounds and theatres. The more we are able to weave such social action into our plans of economic growth the more I think we will be able to prevent the materialist dynamics from dominating the picture of economic development.

The second approach consists in the work that voluntary agencies can do. People who had visited Madras twenty years ago would have seen—or failed to see—a little shack of a building called the Andhra Mahila Sabha. If they went there again they would see an impressive institution. Mrs. Durgabai Deshmukh did not achieve this by being a Member of the Planning Commission or being Chairman of the Central Social Welfare Board. This is an illustration of what voluntary social agencies could do. We all know that voluntary agencies play a very important part in the social life of developed countries like the United States. In our country, too, voluntary agencies played an important part in the pre-Independence days. I am not at all sure whether after Independence voluntary agencies in our country are occupying the kind of dominant place that they should occupy in the context of the developing economy. Anyway, one of the problems of social welfare in a developing economy is how to stimulate the formation of voluntary agencies, how to get them to play a much more important role in social welfare then they are doing today, how to see to it that the voluntary organisations do not all the time look to Government for grants, how to ensure their effectiveness and how to get workers and personnel for them.

I come to the third of the approaches. This is something where all of us have a responsibility whether we are in the academic profession or in politics or in any other profession—and that is the subject of social conscience. Social conscience is extremely important in the maintenance of social values. But somehow, in spite of the efforts at national development, social conscience in this country has been undergoing a certain ossification. Therefore, I was not entirely unhappy when in Parliament there was a debate on the average income of the people, whether it was three annas or seven annas or fifteen annas. Irrespective of the statistics involved, what was made conspicuously clear, almost brutally clear, was the fact of mass poverty in India. The awakening of social conscience is the most important pre-condition of ensuring the maintenance of the kind of values which we require and without which it would be very difficult to deal with the problem of social welfare in a developing economy.

EMPLOYMENT PROSPECTS

M. L. GUPTA

IN VIEW of the serious unemployment situation facing the country, the Third Five Year Plan had, *inter alia,* the objective of utilising to the fullest possible extent the manpower resources of the country and to ensure a substantial expansion in employment opportunities. The backlog of unemployment at the beginning of the Plan was estimated at about 9 million. The growth of labour force during the Third Plan period was reckoned to be of the order of 17 million. As against these requirements, the Plan aimed at 'holding the unemployment line' and placed the actual employment potential of 14 million—10.5 million in non-agricultural sectors and 3.5 million in agriculture and allied activities. Measures to supplement the employment potential were thought to be essential and the Rural Works Programme was taken up as a useful country-wide measure to augment the employment opportunities, to step up agricultural output and to develop means of local transport and communications.

There is a dearth of data in essential respects which makes it difficult to assess the employment performance of the Third Plan now when it is half way through. Employment Market Information, which has been developed during the last few years, now constitutes an important source of data on employment in the organised sectors of the economy. Two hundred and twenty-three Employment Market Areas are known to have been set up by March 1963. When the geographical coverage of the EMI programme is completed, it should be possible to build up directly a picture of additional employment generated in these sectors. At present, on the basis of output-employment ratios and outlay-employment norms as applied respectively to the physical targets so far achieved and the Plan expenditure incurred, it is estimated that the additional employment generated during the first two years of the Plan and likely to be generated by the end of the third year (1963-64) would be about 4.9 million out of 10.5 million non-agricultural employment target for the Plan period as a whole. In this calculation, account has been taken of the actual expenditure in 1961-62, anticipated expenditure in 1962-63 and the budget expenditure figures for 1963-64. Where calculation of additional employment has been based on outlay-employment ratios, an allowance has been made for the increase in prices since the beginning of the Third Plan. A further adjustment is necessary because the planning experience in the country has been that, generally, the actual Plan expenditure in a year is less than the anticipated expenditure and because the additional employment calculated for 1963-64 is based on the budget provisions, which are subject to a possible shortfall in terms of actuals. Taking this factor into consideration, the employment performance of the first three years of the Plan in the non-agricultural sectors may be in the range of 40 per cent and 45 per cent of the total five-year target.

In the agricultural sector, the method of estimating additional employment has been in terms of requirements of labour for every acre of net additional irrigated area or one acre of net additional area benefited by soil conservation measures and the like. Following this approach, the additional employment in the agricultural sector works out at 1.6 million during the first three years (slightly less than half) out of the five-year target of 3.5 million.

A special feature of the Third Plan in the realm of employment has been launching of the Rural Works Programme. The Plan envisaged tentatively that the programme as a whole might entail an outlay of Rs. 150 crore by 1965-66 and provide employment to about 2.5 million persons during the slack agricultural seasons by then—the last year of the Plan. Outlay on the programme in 176 projects which functioned effectively at the end of March 1963 was of the order of about Rs. 1.5 crore resulting in creation of additional employment to the extent of a little over 76 lakh man-days.

At this rate of development, it is estimated that possible achievement against the Third Plan tentative targets might be about one-fourth in terms of expenditure and one-third in terms of additional employment. Even this will materialise only if the slow progress made so far is accelerated. It is important to add that this scheme should be looked upon more for relieving under-employment than for creating employment opportunities on full-time basis.

Another measure adopted recently under the Third Plan is the introduction of Rural Industries Projects having the objective of bringing about a co-operative agro-industrial economy involving all-round development and expanding non-agricultural employment. Forty-five areas were selected in various parts of the countr in 1962 for trying out the projects on a pilot basis. Survey work in most of the areas has been completed and the survey reports are being examined in the Planning Commission. With the starting of actual execution of the projects in the near future, rural industrialisation will get a new impetus. The projects are likely to have a wholesome effect on the employment situation, especially since they are intended to be integrated in the Rural Works Programme.

The shortfall in creation of additional employment opportunities seems to be reflected by the growing size of the live registers of employment exchanges in the recent past. In view of the existence of a seasonal element, the live register data are analysed below as at the end of March of every year from the beginning of the Third Plan. Since the latest live register figures available now are for June 1963, these data are analysed also in terms of the position as at the end of June every year during this period.

Month and year	Number of Exchanges	Number of applicants on Live Register	Number of applicants on identical exchanges functioning at the beginning of the Third Plan
			(Figures in lakhs)
March 1961	307	15·61	15·61
March 1962	334	18·54	18·32
March 1963	349	24·83	24·16
June 1961	312	17·55	17·52
June 1962	342	20·63	20·23
June 1963	350	26·85	26·06

It would be seen in the Table that the number of applicants on the live registers has been increasing considerably since March 1961 and more especially during 1962-63. Part of the increase may be associated with the increasing number of exchanges since the Plan began. In order to arrive at a comparable base over this period, *first* the live register figures of the new exchanges opened after March 1961 have been separated from those of the othe exchanges already functioning, and *secondly* an adjustment ha been made for transfer of applicants' cards from the old exchanges to the new ones. Thus the adjusted figures given in the last column of the Table relate to the 307 exchanges existing at the start of e Third Plan.

The rate of increase during 1962-63 (whether we take the period March to March or June to June) works out almost double of that experienced during 1961-62. Even in the interpretation of these adjusted figures, there are important limitations. In the first place, it is well known that all the unemployed persons do not register themselves at the exchanges—a factor which calls for an upward adjustment in the live register figures for estimating total unemployment at a point of time. Secondly, many applicants already employed register themselves at the exchanges only to improve their employment prospects. This factor calls for a downward adjustment in the exchange figures when total unemployment is to be estimated. Thirdly, the Compulsory Notification of Vacancies Act, 1959 has been operating for the last three years. During March 1961-March 1963, the vacancies notified to the exchanges increased from 5.7 lakh to 8.3 lakh and the placements effected from 3.2 lakh to 4.8 lakh. This trend is continuing as the June 1963 figures (not given for want of space) show. The increasing number of vacancies notified denote wider use of the exchanges by the employers in the public and private sectors. The increase in placements affected indicates better success of the exchange machinery in securing jobs to the applicants. These factors thus generate expectation among those who register and there is a rush of registration by other applicants who follow. Even allowing for this factor, the rise in the live register figures has to be viewed with concern and some deterioration in the employment situation is evident from the exchange statistics.

The magnitude of unemployed among the educated persons (matriculates and above) has been sizable for some time. Their number on the live register increased from 4.9 lakh at the beginning of the Third Plan to 7.8 lakh at the end of June 1963. In his group, the matriculates alone account for about four-fifths of he total followed by intermediates accounting for about one-tenth nd the graduates accounting for the rest.

Along with the significant increase in the number of educated gistered with the exchanges, manpower shortages have been perienced for certain categories of professional and technical personnel such as engineers, draughtsmen, chemists, pharmacists, surgeons, physicians, teachers and certain categories of craftsmen including fitters, turners, tool makers, electricians and the like. Part of the shortages, especially of the craftsmen level technicians, may be ascribed to the low mobility of such persons from one area to another owing to low emoluments, high cost of travel and the like. Nevertheless, to an extent there is real shortage of technical personnel which can be overcome by a continuous orientation of our educational system in favour of technical and scientific education so as to meet the needs of a developing economy.

The National Emergency has had its own impact on the development programmes under the Third Plan and consequently on the employment situation in the recent past. A recent assessment of the Third Plan contents showed that the bulk of the Plan was essential from the defence angle also. However, a lowering of priority to social services (the employment content of which is relatively large) and the severe stringency in the civilian recruitment introduced in the wake of the Emergency tend to have repercussions on the employment situation. On the other hand, the step-up of recruitment of personnel to the defence forces, acceleration of defence production and related factors have resulted in some additional employment which may not be presented here quantitatively.

From the foregoing analysis, it should not be inferred that the original employment targets of the Third Plan will not be reached as much will depend upon the progress which is made during the rest of the Plan period in the Plan implementation. From the very recent mid-term appraisal of the Plan in respect of different sectors of the economy, it appears that there may be shortfalls in the implementation of quite a few important programmes of development. On the other hand, the nation's determination to further strengthen the country's armed forces already initiated under the Emergency may create employment opportunities for a large number of persons. It is difficult to make a forecast at this stage as to the net effect of these two opposite trends in the sphere of employment.

The employment situation during the next few years is likel
to have a bearing of yet another adjustment in labour force est
mates when the more detailed age data of the 1961 Census becon
available. The unemployment problem which the Fourth Pl

may inherit from the current Plan will, therefore, be influenced by (i) a possible revision of the job requirements within the Third Plan period and (ii) the actual additional employment generated (in relation to the targets) as the Third Plan is implemented during its remaining period.

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